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No. 5

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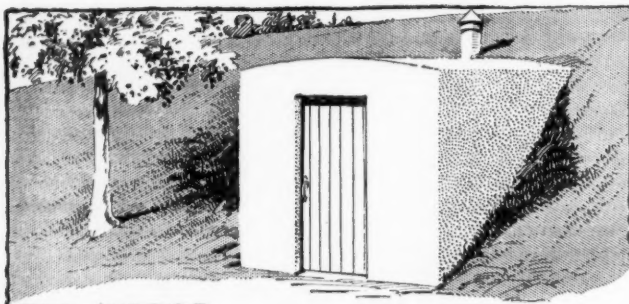
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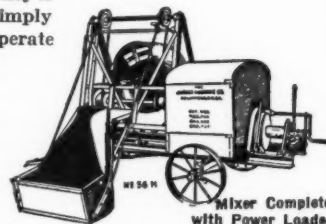
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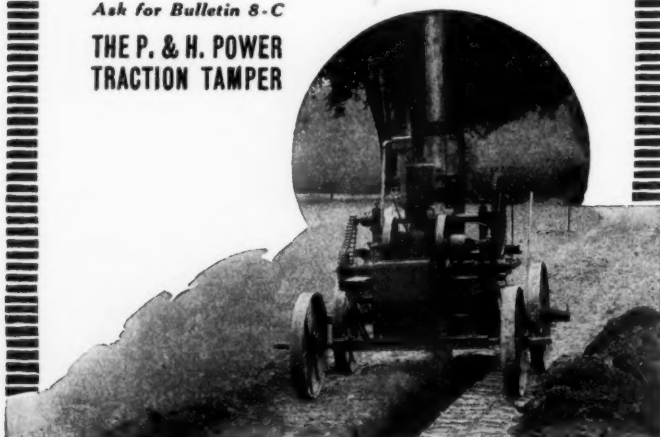
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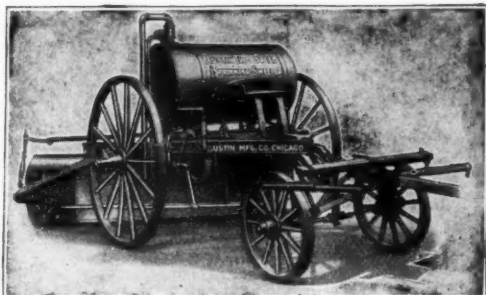
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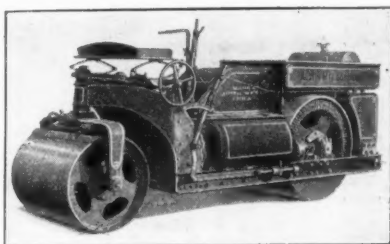
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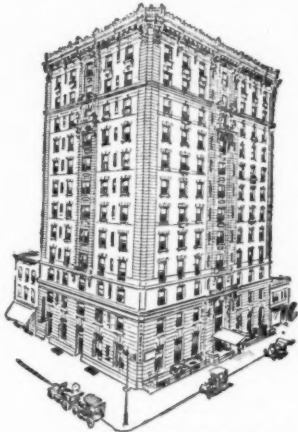
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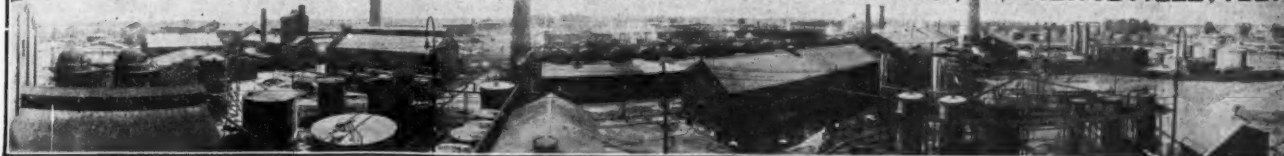
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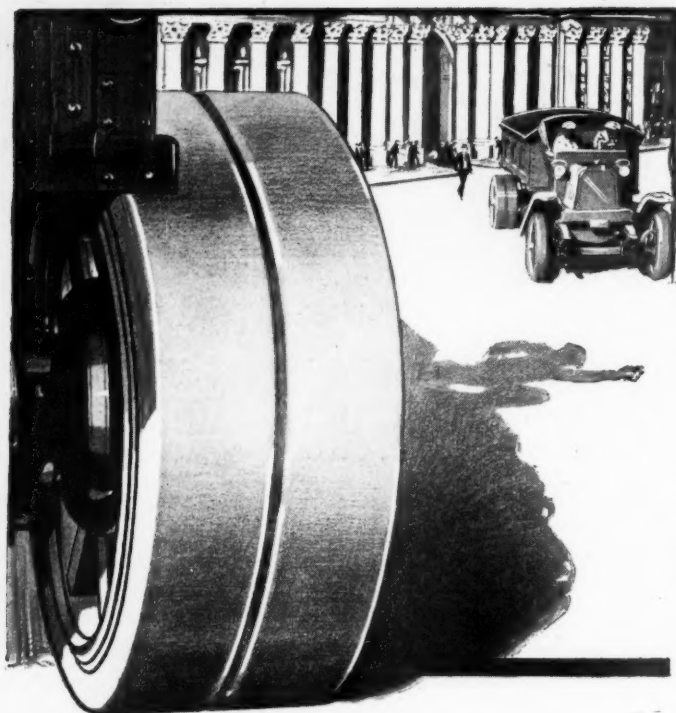
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Municipal Journal

Volume XLV.

NEW YORK, AUGUST 3, 1918

NO. 5

YORKSHIP VILLAGE FOR SHIP WORKERS

A Housing Project Near Camden, N. J., to Provide Permanent Homes for Two Thousand Workers and Their Families—Sewerage and Sewage Treatment—Pipes and Wires in Alleys.

Among the numerous plants at which ships are being built for the Emergency Fleet Corporation, representing the Federal Government, is one at Camden, N. J.; and here, as at most of the others, the problem of housing the employees was recognized as being a serious one. Action to remedy this condition is being taken in a score or more localities, but a project to relieve conditions at Camden, known as "Yorkship Village," which is being constructed for the New York Shipbuilding Corporation under the direction of the Emergency Fleet Corporation, has progressed the furthest, we believe.

The site upon which this housing development is located is an irregular tract of 225 acres of farm land which was originally just outside of the city line of Camden, but which has been taken in by that city. Its northern boundary is formed by a creek which, with marshy land beyond it, separates it most effectively from the city of Camden, although a new road, with a bridge across the creek, is being built to connect the two. At the present, a contract is under way that calls for the laying out of about half of the property and the erection of 907 houses, a few stores, apartments and a theatre. The city of Camden will supply a school. The 907 dwellings are built in varying forms and combinations, some dwellings standing singly, others in groups of from two to nine houses, there being a total of 243 distinct buildings containing the 907 dwellings. These buildings are to be completed by the middle of September, before which time it is expected that contracts will have been let and work begun on another group of a thousand buildings south of the present layout.

The work necessarily includes not only the construction of buildings, but the laying out and constructing of streets, alleys, parks, etc., the construction of sewers, water mains, street lighting, sidewalks, roadways, etc., the planting of trees and in fact supplying everything necessary to transform a piece of meadow land into a city ready for occupancy.

The general layout of the streets is shown on the accompanying plan. In general, there is a central square which is 320 feet on each side, surrounded by a 10-foot sidewalk, around which square will be the public buildings of the city. To the north is Broadway, the beginning of the boulevard that connects the settlement (which is known as Yorkship Village) with Camden. This street has a parking through the middle 80 feet wide; on each side of this a 20-foot roadway, and on the outer sides of these, 5-foot sidewalks with a 6-foot parking. The other two principal streets, Kearsarge and Alabama avenues, are 62 feet wide, each consisting of a 32-foot roadway and on each side of this an outer

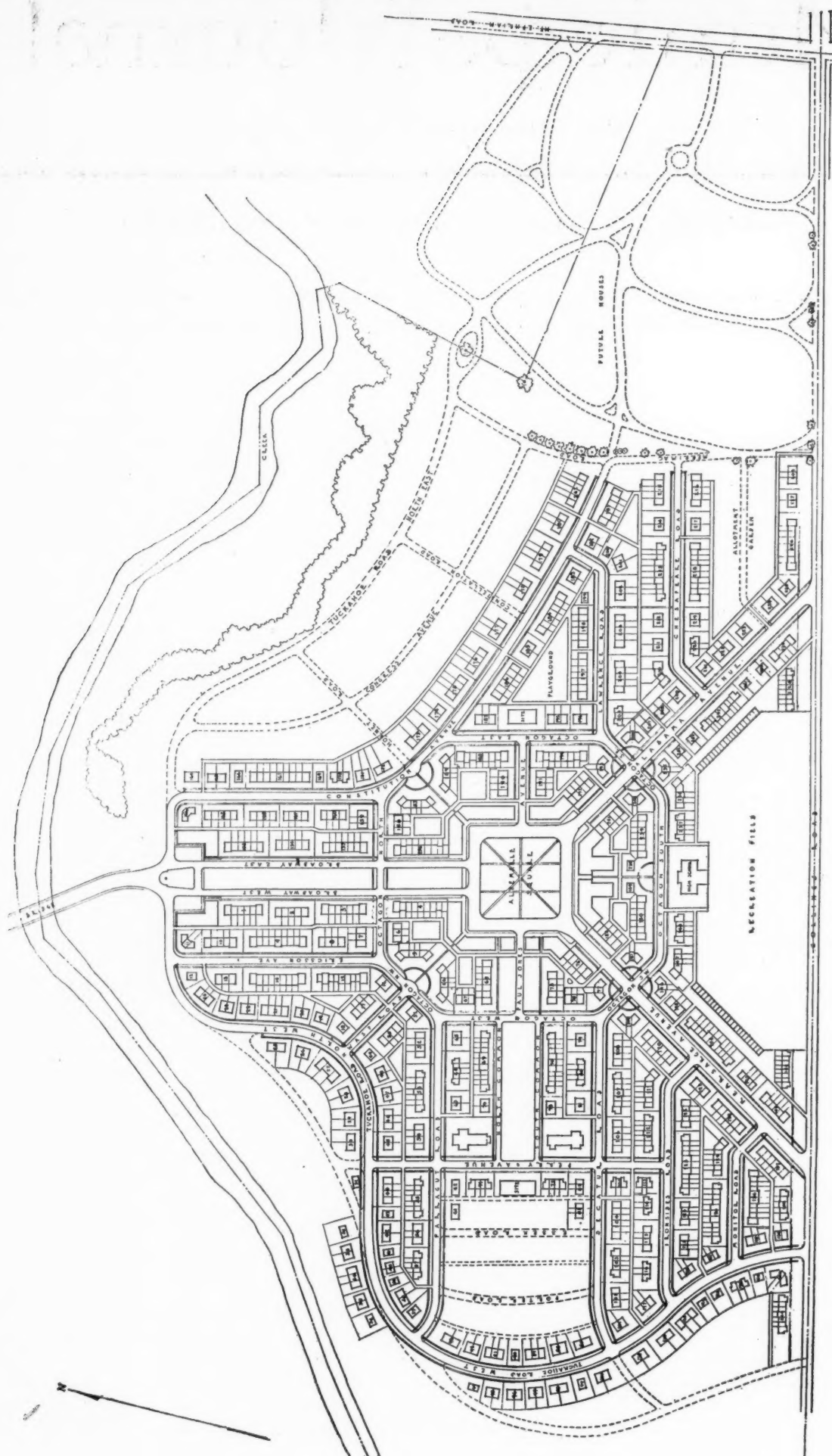
parking of 9 feet, a 42-foot sidewalk and an inner parking of 2 feet. Most of the other streets are 50 feet wide with an 18-foot roadway. Through the center of every block passes an alley 10 feet wide. The ground is more or less rolling, although the maximum difference in elevations is only about 20 feet. The central park, Albe-marle Square, is on a level plot of ground which is almost the highest in the area. Ordinary mean tide in the creek is taken as elevation 100, but extreme high tide sometimes reaches 108 or slightly more. The cellar of the lowest house in the settlement is at elevation 109.

In addition to the central square there are, it will be seen by the general plan, a common, a playground, ground around the high school for allotment gardens, and other open and public plots scattered throughout the village.

Most of the surface water will be removed by surface drains, but there is a small amount of storm-water sewerage removing the surface water from the central part of the development. Separate sewers are designed, however, to reach all buildings, being laid in the alleys in every case. These are led to a disposal plant at the west end of the village, which consists of a septic tank together with sludge beds and a pump for lifting the sewage to the septic tank. The sewage in the septic tank is to stand at elevation 113, permitting discharge at any stage of the tide, while the sewage in the pump well (into which it flows by gravity) will have a range between 101 and 94, the pump being automatically started when it reaches the former elevation and stopped when it reaches the latter. There will be two vertical centrifugal pumps, each with a capacity of 600 gallons per minute and operated by a 10-horsepower motor, the starting and stopping being float-controlled as just described.

Water mains will be laid in the parking strips between the curb and the trees on one side of the street. There will be a water tower to give pressure and for fire protection, and the architects hope to secure the adoption of a design that will be ornamental and in keeping with the architectural scheme of the development, although this point has not been definitely settled. The gas pipes are laid in the alleys in most cases. Current for electric lighting, like the gas, will be brought from Camden, and be distributed through the village by elevated wires carried on poles through the alleys.

All alleys are provided with fences on both sides, but these are all constructed with pipe frames and "hairpin" wire fencing, thus avoiding the encouragement to slovenliness afforded by solid back-yard fences. The alleys are dished or low in the center and are paved with concrete. Concrete is also to be used for roadways, for



PLAN OF YORKSHIP VILLAGE, A HOUSING DEVELOPMENT NEAR CAMDEN, N. J.

paving the sidewalks, and constructing integral curbs and gutters on all streets. When the construction is near enough to completion, shade trees will be set out along the streets, these including planes, maples and others.

Although construction work was begun only a few months ago, it is expected to have the entire 243 buildings completed within the next two months, several thousand men being now engaged in the construction work.

In the matter of architecture, considerable thought was given to securing a pleasing variety and at the same time securing houses of reasonable cost. There are 27 types of houses, used in 70 different combinations. Broken roof lines are the rule. All of them are of colonial architecture, and the aim was to give the village the general appearance of the best type of town of the colonial day. A typical house will cost about \$2,700 and the improvement for each lot will average \$450 or perhaps more. About 95 per cent of the buildings are constructed of brick, while the remaining 5 per cent are of stucco, shingle or pebbles. There are no shingle roofs, but slate is used largely. It is probable that in the additional buildings to be erected very soon, shingle will be used more extensively and brick less.

The bulk of the money for this project is lent by the Government, through the Emergency Fleet Corporation, to the New York Shipbuilding Corporation, with provision for the transfer of the whole housing enterprise to a subsidiary corporation; the loan being a first lien on the property at 5 per cent. The engineers in connection with the project are Lockwood, Green and Company, and the architect is Electus D. Litchfield, both of New York; the architectural work having been performed by Mr. Litchfield's junior associate, Piny Rogers, to whom we are indebted for the above information.

ST. LOUIS' NEW ZONE ORDINANCE.*

Requirements for Area Districts—Yards, Courts and Building Areas—Occupancy Permits—Enforcement of Ordinance—General Provisions.

The foregoing requirements for area districts are subject to the following exceptions and regulations. (1) Every part of a required courtyard shall be open from its lowest height to the sky unobstructed except for ordinary projections of skylights above the bottom of the court, and window sills, belt courses, cornices and other ornamental features to the extent of not more than 4 inches. Open or lattice-enclosed iron fire escapes, fire-proof outside stairways or solid-floored balconies opening upon fire towers, projecting into the court or yard not more than 4 feet may be located in a rear yard or court with the approval of the Board of Public Service. (2) Chimneys or flues may be erected within the limits prescribed for yards provided they do not exceed 5 square feet in horizontal area and do not obstruct light and ventilation, if the Board of Public Service issues a permit therefor. (3) For the purpose of this ordinance, two or more buildings on a single lot may be considered as a single building. Any structure is considered a building or part of a building. Two or more buildings erected upon contiguous lots to be used as integral parts of a single establishment are considered as parts of one building. If one or more buildings not fronting on a street are erected in the rear of another building fronting on a street and all are used as a single

establishment, they are considered as parts of one building. (4) Where a district boundary line divides the lot of a single owner, the area regulations for either portion of the lot shall, with the approval of the Board of Public Service, extend to the entire lot, but not more than 25 feet beyond the boundary line of the district for which such regulations are authorized. (5) Where a tenement is placed on a lot so that the rear of the individual tenements open onto the side yard or an outer court, the minimum width of this yard or court must be that required for a rear yard, and have a width at least 6 inches for each foot of building height and one foot for each 10 feet of building length. (6) In computing the depth of a rear yard where this abuts an alley, one-half the width of the alley may be assumed to be a part of the rear yard. (7) No cornice shall project over the street line more than 5 per cent of the width of the street, and in no case more than 5 feet.

OCCUPANCY PERMITS.

Before any building hereafter erected or altered or any land is occupied or used for any purpose, a certificate must be issued by the Division of Buildings and Inspection stating that the building complies with all the building and health laws and the provisions of this ordinance. No change of occupancy or use shall be made in any building or part thereof not consistent with the provisions of this ordinance. Present occupancy or use of existing buildings may continue unless safety of life and property demand otherwise.

Certificates of occupancy and compliance shall be issued within ten days after written application therefor, provided the erection or alteration of the building shall have been completed. A record of all certificates is to be kept on file in the Division of Buildings and Inspection and copies furnished on request to any person having a proprietary interest in the building, a fee of \$2 being charged for each original certificate.

It is unlawful to occupy any premise until such certificate has been issued, and the supervisor of the assessment of water rates shall not permit water to be furnished to such premises until such certificate has been issued by the Division of Buildings and Inspection.

GENERAL PROVISIONS.

The provisions of this ordinance are to be considered minimum requirements and they are not intended to interfere with or abrogate any rules, regulations or permits issued by the Fire or Health Department, nor any covenants or other agreements by the parties, except that where this ordinance imposes greater restrictions than those imposed by such rules or permits or agreements, the provisions of the ordinance shall control.

Construction and use of buildings that are or may within twelve months be put under construction, under a permit of the Superintendent of Buildings issued previous to the date of the ordinance are unaffected by the ordinance, provided that such building may be altered to the extent of not more than 50 per cent of its structural value, and that any building that is destroyed by fire or other calamity or for any reason reconstructed must conform to the district restrictions of this ordinance.

The City Plan Commission may, of its own initiative or upon petition by the owners of 50 per cent of the property in any given district or part thereof, prepare and introduce an ordinance altering the height, area, or use restrictions established by this ordinance; but appeal from the decision of the City Plan Commission may be taken to the Board of Public Service.

The provisions of this ordinance are to be enforced

* Continued from page 68.

by the Board of Public Service, through the Division of Buildings and Inspection. Violations of the ordinance will be deemed a misdemeanor and will subject the owner, or any other person who assisted in the commission of the violation or who maintains any building or premises in which such violation exists, to a fine of not less than five nor more than fifty dollars, each day that a violation is permitted to exist constituting a separate offense.

Where this ordinance requires larger open spaces, less height, or less area of lot covered than does the building code, this ordinance will cover; but if on the other hand the building code contains more severe restrictions, it shall govern.

In determining the exact boundaries of districts (which boundaries are determined by the maps and not by definite descriptions), where the maps show a district boundary approximately coinciding with a street or alley, that street or alley will be construed to be the boundary of the district. Where the district boundary is not a street or alley, but where it approximately coincides with property or lot lines, these property or lot lines will be construed to be the boundaries of the district. Where the boundary is not a street, and there are no property or lot lines approximately coinciding with the district boundaries, the exact location of the boundary shall be determined by scaling from the map; where uncertainty exists the line will be determined by the City Plan Commission.

All rooms or open spaces in any building hereafter erected in which persons live, sleep, work, or congregate must have a window or windows or skylight opening onto a street, alley, legal court or yard, the net glass area of which should be at least 10 per cent of the floor area of the room or open space. Or, if this is impracticable, such rooms must be ventilated by an approved mechanical system which will effect at least six complete changes of air per hour during occupancy. This, however, does not apply to rooms exceeding 1,000 cubic feet for each occupant, nor when the introduction of such light or ventilation would prove injurious to the manufacture or storage of any article or commodity. (This last paragraph is really a building code rather than a zone restriction.)

LOCATING LEAKS IN OTTAWA.

In his annual report for the year 1917, Andrew F. Macallum, works commissioner of Ottawa, Ont., describes briefly how a pitometer survey was made to locate leaks in the distribution system of that city.

Work was commenced with the pitometer in the latter part of September. The first district which was surveyed was Rockcliffe, and this part of the water distribution system was found to be wasting very little water.

Tests were then made of the water pipes crossing the Rideau river to New Edinburgh. The 15-inch steel main at St. Patrick street bridge and the 8-inch main at Botelier street were found to be in the best condition. The 8-inch main crossing at McTaggart street was found to have a leak in the river section wasting about 450,000 Imperial gallons a day. This main was completely cut off and it was intended to repair it in the spring. Two of the valves on the 8-inch main at Sussex street were found to be leaking very badly at the spindle. One valve alone was wasting slightly over 100,000 gallons. These valves are under water and will have to be repaired when the Rideau river water is low. Several leaks were discovered in W. C. Edwards' yards, and one on Sussex street, which have not yet been repaired.

The apparatus was then moved to the Chaudiere

section. The first main tested was an 8-inch pipe crossing the tail-race, and it was found to be wasting over 250,000 gallons per day. The leak was located and repaired by the diver. The largest leak detected was found on one 8-inch main, which was wasting nearly a million gallons per day, and the main was immediately shut down.

The 8-inch main to J. R. Booth's mills was found in bad condition, but we were unable to calculate this wastage, as we could not close the feed to the mills. This main should be replaced by a main slung to the bridge, as it will be impossible to repair any leak in the water section of the old 8-inch pipe.

With the numerous small leaks which were detected and repaired and the larger ones already described, a wastage of from 2,500,000 to 3,000,000 Imperial gallons per day was located, and for the most part repairs were made. In 1918 it is intended that the pipes crossing the canal, Rideau river and parts of the Ottawa river will be thoroughly tested, besides all districts not covered in 1917.

IMPROVING PUMPING STATION GROUNDS

How Lewiston, Idaho, Is Making an Attractive Spot of a Gravel Bank—Why Such Work Is Worth While.

By E. G. WAGNER *

The average waterworks superintendent believes that a properly-maintained water system is the greatest asset a municipality can own; but it must be conceded that neglected pumping station grounds are about the worst sort of adverse advertising for a community. However, the superintendent who starts out to improve and beautify the grounds around the pumping station will meet with many discouraging conditions, because the average councilman will be satisfied as long as the plant is furnishing an adequate supply of water, and is opposed to spending money in order to beautify the location.

Like many of the pumping station grounds in the west, that of Lewiston, Idaho, is located on a gravel bank beside the river and therefore required considerable expenditure before the grounds were fit to produce vegetation. The location, however, was ideal for a beauty spot, although it was nothing more than a gravel bank, as it afforded the possibilities of providing an exceptionally fine resting place. The grounds are midway between the residential section of the city and its largest and most frequented park, on the south bank of the Clearwater river, which bends gracefully into the city in such a manner as to afford an excellent view of it from the grounds. They also overlook the great fruit farms between the river and the hills to the north. Because of these advantages they are used as a resting place and view point by many citizens.

Originally there was no soil on the station grounds, and before any vegetation could be expected to grow there it was necessary to grade onto them from 8 inches to 4 feet of soil. Plans for improving and beautifying the grounds (see accompanying plan) were shown to F. N. Finch, superintendent of the Lewiston division of the Northern Pacific Railroad, and he gladly gave permission to take from the adjoining railroad property the soil needed to prepare our tract for cultivation.

The total cost of improving and planting the tract has been approximately \$600, this low cost being made pos-

* Superintendent of Water Works and Sewers, Lewiston, Idaho.

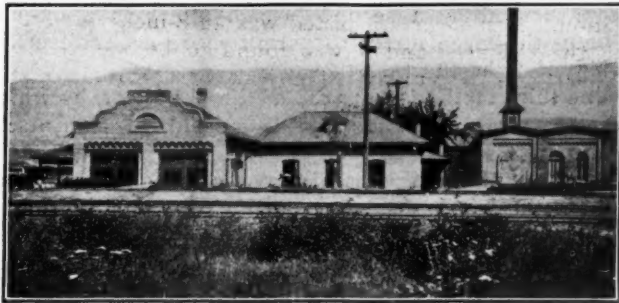


FIG. 1. GENERAL VIEW OF PUMPING PLANT.
High Service Plant at left, Low Service in center,
Steam Plant at right.

sible by the employing of teams and equipment belonging to the Department of Streets during the winter months, when work in that department was slack.

A general idea of the plant as it stands below the railroad embankment and between this and the Clearwater river is given by Figure 1. Figure 2 shows the driveway in front of the steam plant as it is now, before the trees and shrubs have grown. We eliminated the circle of flowering willows shown on the plan, substituting in their stead a low flowering shrub that will harmonize with the rose bushes.

In preparing this plan, the writer had a mental vision of a small park enclosed between the river on one side and on the other a hedge that would serve as a screen to shut off the crudeness of unimproved railroad grounds and embankment, in which park were nooks of special beauty, expanses of lawn and clumps of trees so selected

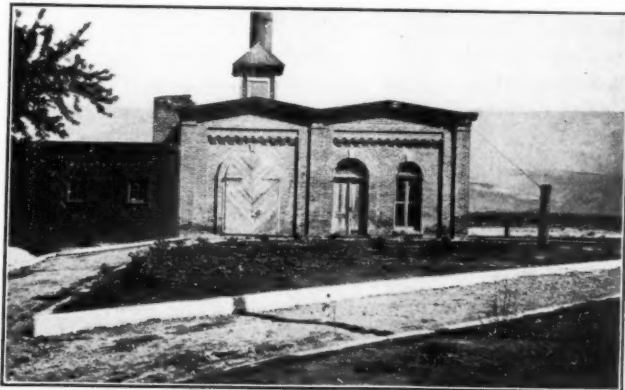


FIG. 2. STEAM PLANT BUILDING.
View taken across rosebed and lawn (See general plan).



ROANOKE, VA., WATER WORKS PROPERTY.
Another plant, where natural advantages were utilized
and improved.

and arranged as to provide an inclining bank of green to the north of the plant and a pleasing border around the sedimentation basins.

It may seem to some that the writer expended considerable money and trouble in order to satisfy a whim, but he believes that it will be much more than repaid by the impression made upon the public. If they find the pumping station to be about the cleanest and most beautiful place within the city, they will be much more ready to cooperate in the successful conduct of the water works, for they will feel that those in charge have sufficiently considered the general public to improve, beautify and protect the source of supply.

Moreover, we demand the best machinery and highest efficiency, equip the plant with the best apparatus obtainable, and require that the interior be kept spotless; but how can we expect the engineers to be careful of the inside of the buildings if we neglect the grounds? Such an expectation is not in keeping with good judgment. There is no danger of the water becoming contaminated because the pumps are dirty or because the floors are unclean or because plaster has fallen from the walls or there is a patch over the window, but there is danger of filth getting into the water if open sedimentation basins are surrounded by unclean grounds. It would

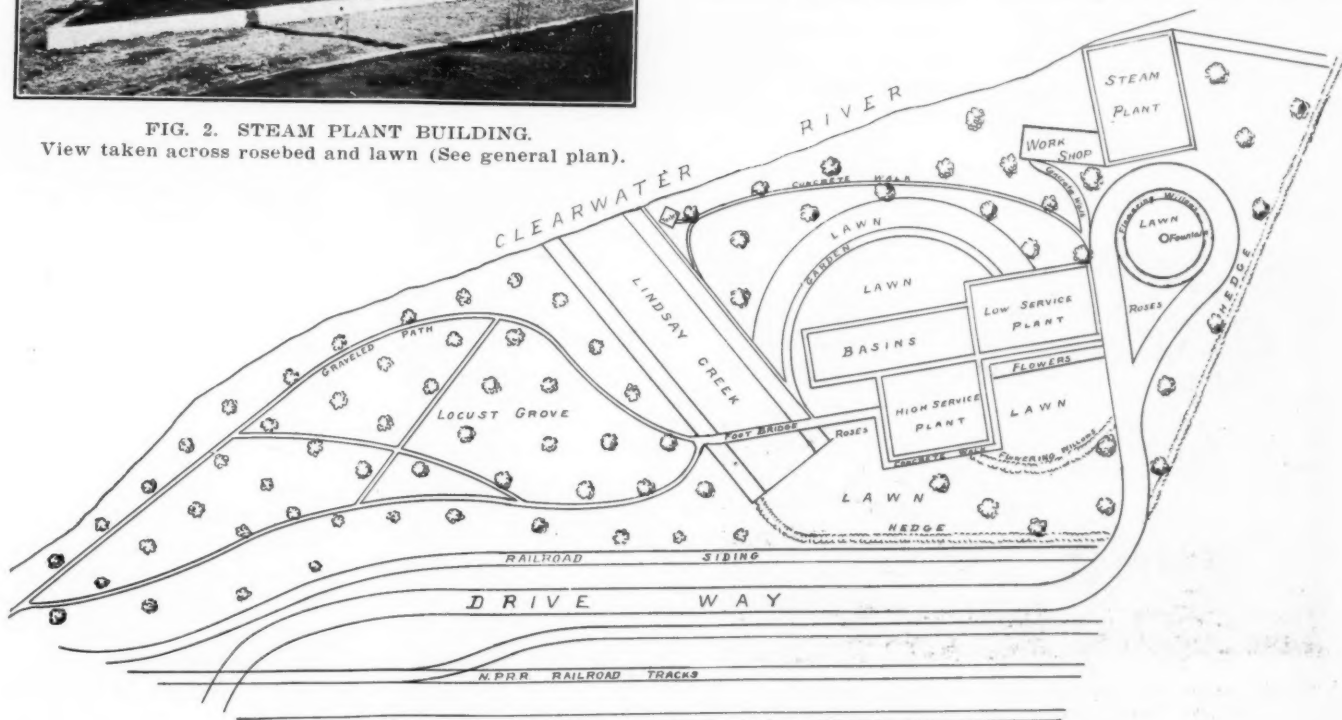


FIG. 3. GENERAL PLAN FOR IMPROVING PUMPING STATION GROUNDS.

appear, therefore, that there is more argument for care in maintaining neatness in the exterior of the building than in the interior. It is not probable that we will have to remind the chief engineer that his plant is not as clean as we would like it to be, if we make the outside surroundings of the plant beautiful, for the contrast then would be too great and consistency is the natural disposition of human beings.

WATER WORKS OPERATION.

Measuring the Water Entering a Section—Deacon Meter, Pitometer and Other Methods—Illustrations of Leakage Surveys—Checking by Service Meters.

In describing the investigation of the several subdivisions or sections of the distribution system, it was stated that the determination of the leakage or waste that was occurring in a section was based upon the determination of the amount of water entering the section through the only point of inlet left open.

The measuring of this amount is generally done in one of three ways. Probably the first method employed for this purpose was to tap the main on each side of one of the valves by which the section under consideration was cut off from the rest of the system, connect these two taps by means of a small pipe sufficiently large to carry any probable night consumption of the section, and measure the amount of water carried around the valve through this by-pass; all other means by which water could reach the section being eliminated by closing all valves. This was the plan used by Deacon in England a generation ago, in connection with which he invented and used the "Deacon waste-water meter," which was a contrivance for automatically measuring the flow through the by-pass. Instead of a Deacon meter, an ordinary meter can be placed in the by-pass and read for a few minutes each night (the large valve being opened for day service after the reading has been made).

Another plan is similar except that it can be used for testing much larger districts at night or for making daytime investigations of small districts. It consists of using, as a by-pass around a closed valve, a line of fire hose connecting two fire hydrants, one hydrant inside the section under investigation and the other outside and freely connected with the water supply. A meter is placed in the line of hose connecting the hydrants. Where the consumption is expected to be large, a good-sized meter, frequently a 4-inch, is used; sometimes

supplemented by a second $\frac{5}{8}$ -inch meter in a by-pass around the large meter to permit more accurate measuring of light flow.

The third method is the use of the pitometer, by which measurement of flow is made directly in the main itself. Ordinarily the pitometer is connected up with a self-recording apparatus which keeps a continuous record of the amount of the flow through the pipe day and night. A number of pitometers can thus be in use simultaneously, necessitating only one inspector to look after them all; while the continuous record of both day and night consumption gives a great deal more information than can be obtained by occasional readings of a meter lasting for a few minutes only. There is also the advantage that it is possible by its means to test a section lying along a main which feeds a district beyond it, without the necessity of closing off this main; this being accomplished by closing all valves except those on the main in question so that a reading of the water passing through this main into the district and a reading of that passing out of the district, and taking their difference, will give the amount withdrawn from the main in the district. The use of the pitometer necessitates tapping the main wherever it is used and screwing into the main a fixture through which the pitometer can be inserted; but a test having once been made at any point, a pitometer can be used at this point at any future time without additional expense.

Two or three descriptions of the methods actually used by cities in making investigations of this kind will be given to show how different cities have adapted the different methods to various local conditions.

LEAKAGE SURVEY AT LANCASTER.

In making a leakage survey in 1911, F. H. Shaw, superintendent of the water department of Lancaster, Pa., first inspected all valves in the distribution system (about 70 miles of pipe) and put them into good condition. A 4-inch meter was mounted on a small hand truck and the connections bushed down to fit $2\frac{1}{2}$ -inch fire hose. Also a $\frac{5}{8}$ -inch meter and by-pass around the 4-inch meter were attached to the latter, and a pressure gage at the outlet end.

The distribution system was divided into districts of about 12 acres each, each district, while being tested, being entirely cut off by closing valves and fed through a line of fire hose leading from a fire hydrant inside the district to the meter and from this to a hydrant outside the district. After reading the meter with all houses connected, all house connections were closed to test for leaks in the mains. While the house connections were closed the metered by-pass also was closed and a hydrant in the district opened to see if the valves used to cut it out were all tight. When these valves were known to be tight, any water passing through the meter (the small one was used to measure small leaks) was leakage from mains or service pipes. By closing valves so as to cut off one block after another within the district, the leak was located between two valves, and then was traced down by use of an audiphone on curb cocks, hydrants and drills driven down to the main. A total of 91 miles of mains in 1,310 acres were tested in 290 days at cost for labor of \$2,640. Twenty-nine leaks in street mains, 35 in hydrants and 12 in street valves were discovered. The amount of leakage discovered totaled $1\frac{1}{4}$ million gallons a day, costing the city about \$17,000 a year.

PITOMETER SURVEY IN STOCKTON.

Stockton, California, with a population approximating 40,000, used a pitometer for determining leakage and waste. The city area being level, the street system is simple, the mains are quite thoroughly interconnected or gridironed and well provided with valves.



FOUR-INCH METER, SMALL BY-PASS METER AND GAGE USED IN MEASURING DISTRICT CONSUMPTION BY CONNECTING FIRE HYDRANTS.

In making the investigation, valves were closed so as to cut off a small section of the distribution system, feeding it through one main only and measuring the flow into it by a pitometer on this main. Following this, another section was similarly cut off and tested, and so on until the entire system had been covered. A map of the distribution system was used for outlining the several sections, and these sections were indicated on the map by different colors. The taps for applying the pitometer to the mains were made permanent and enclosed in brick boxes covered with street plates. By using these permanent taps and the section sub-division map, future tests were provided for at a minimum of cost and trouble.

Tests were made at night, between 11 p. m. and 5 a. m., when there was the least use of the water and the highest pressure. A regular log of the pitometer readings was kept, and inspection of buildings in the district under test made in the daytime, and leaking fixtures ordered repaired. Enough leaks in toilets alone in residences were found to pay for making the investigation. No serious leaks in the mains were found.

In any of these methods, the reliability of the test depends to a considerable extent on the tightness of all valves that are supposed to be closed. To determine whether the valves are tight, close all of the valves used to cut out a district. Open a fire hydrant within the district and then open one valve slightly until water just flows from the nozzle of the hydrant. Close this valve and note whether water continues to flow from the nozzle. If it does, one of the valves must be leaking. It is possible that such leaking for five minutes or so may be caused by water flowing back into the mains from the house plumbing in the district, but this will cease in a few minutes, while flow from the nozzle caused by leaky valves will continue undiminished. There is the possibility that leaks in the district will carry off water that is entering through leaky valves; but as the open fire hydrant removes all pressure from the section, it is not probable that leaks will continue to remove any large amount of water unless they consist of actual breaks in the main. If the water lowers in the hydrant, it will indicate leaks in the section below the level of the hydrant nozzle. In addition to this test, each valve should be tested by a waterphone of some kind for the singing that would indicate the passing of water.

A few special methods have been tried for locating leaks, but these have not proved themselves practicable or for some other reason have not been adopted. One of these consists of a device for measuring the pressure waves in water caused by the sudden closing of a valve—water-hammer—by utilizing the fact that such an impulse, on reaching a closed valve or obstruction, will return to the starting point, maintaining the same speed throughout; but the intensity of the wave will be reduced when it passes a point through which water is escaping. A sensitive appliance for recording the pressure is connected with the main at one end of the section to be tested, all services and other known outlets are closed, and a valve in the main is closed at a known distance from the recorder. Water hammer is caused by allowing water to escape through a pipe alongside of the registering contrivance and suddenly closing this pipe. The line on the diagram indicating the intensity of pressure will fall as the wave travels away from the recorder and rise as it returns to it, and will show by a break in the line the relative distance between the indicator and the break and between the indicator and the closed valve in the line.

When leaks are discovered in plumbing in buildings, the owners are notified to repair them within a given

time, say one or two weeks, or if they fail to do so the department or company may make the repairs at the expense of the owner or (what is more common) may shut off the water from the premises. Leaks found in mains are repaired as soon as possible—generally as soon as located, while the excavation by which exact location was ascertained is still open. When all known leaks in a test section have been stopped, the leakage in the section is again ascertained as before. If there still remains sufficient leakage to warrant further investigation, the ingenuity and imagination of the superintendent may be put to a test in finding the cause. In some cases this may be the existence of service connections whose existence is unknown; one or more of which may be broken off underground and running full bore, or they may be supplying water to consumers who were not known to be using it. Or there may be a branch from the main that has not been shut off, its existence having been overlooked or forgotten. In some cases (generally factories having large services) the service has been tapped surreptitiously between the main and the shut-off valve at the curb or property line and water used through this to avoid passing it through the meter on the main service line. Or water may be used for filling automatic flush-tanks in the sewer system and this fact forgotten. All hydrants should be investigated to make sure that no water is leaking into these and escaping through the drip.

Where all services are metered, waste or leakage inside of buildings is generally the concern of the consumer and need not be considered by the superintendent. If all meters registered exactly the quantities passing through them, the underground leakage would be represented by the difference between the sum of the readings of all the meters in a district and the total amount entering the district as measured by one of the methods previously described. But most meters under-register to some extent, the amount increasing with use, and fail to register small leaks or waste in the plumbing. The total under-registration may be ten per cent or even more, although it should be kept below this by careful inspection of meters and meter readings and occasional removal and testing of each meter. Consequently this comparison of readings of service meters and master meter can not be relied upon for learning of the existence of leakage except where this equals ten per cent or more of the total consumption.

ADVANTAGES OF THE EXECUTIVE BUDGET.

The Chamber of Commerce of Los Angeles, Cal., the Municipal League of that city and other civic bodies are endeavoring to have adopted a city charter amendment providing for an executive budget. The "Municipal League Bulletin" gives the following explanation of the advantages of such a budget.

There are three principles that must enter into effective budget making, namely:

1. The most experienced expert advice must be had.
2. The helpful, constraining influence of publicity must be invited.
3. The careful judgment of able councilmen must be given.

Under a properly devised executive budget system, all three principles can be had.

The executive budget may be briefly described as follows:

The mayor (the city's chief executive, hence the name "executive" budget) must submit to the city council, in printed form, a complete budget, as recommended by him, for the city's revenue and expenses for the ensuing year. In the preparation of this budget the mayor can force the heads of the various city departments to assist him with

all the knowledge and experience they have in their own several departments. Thus the mayor, having determined how much the city's revenue will amount to, having received the budget estimates or requests from the various departments, having determined, approximately, the maximum sum that can be allowed each department, can thereupon require the head of any department to submit to him a revised departmental budget estimate on the basis of such maximum sum for the department. The head of a department can tell better than anyone else (or should be able to) the very best way to spend a given sum in the work of his department.

The head of a department should be required to take the responsibility for making this kind of a recommendation. Such is not the case under our present budget making procedure.

The heads of departments now hand in their departmental budgets or requests, not to the mayor, but to the council. These requests are often not made up on any practical basis, but on the basis of what the department would like. The departmental requests for this year are made upon the basis of requiring some \$2,000,000 more than the city's revenue can possibly finance. These requests will be slashed by the council, the department head, possibly, contesting each cut but carefully refraining from showing where cuts best can be made, and a final allowance will at last be made to each department, but at no time will the head of any department be required to sign any recommendation as to how the allowance actually made his department can best be spent. After much confusion and delay, an overdue budget for the city will at last be adopted—it should have been adopted before now, before July 1st, the beginning of the new fiscal year. The unbroken experience of the past has been that when the overdue budget does come out, it will be adopted with a rush, without being printed, and without being subjected to public scrutiny.

In an executive budget procedure, however, the budget recommended by the mayor must be submitted to the council in printed form, and the interested public has as long a time to consider the budget as has the council itself. There are few important matters in public business that can be successfully handled without the helpful and sometimes constraining influence of public sentiment.

The mayor, in preparing the executive budget, should have the assistance of an able efficiency department, in addition to having the assistance of the experienced heads of departments. Not all heads of departments will be as efficient as they should be, and even the best of department managers are helped by the knowledge that their methods of work will be checked over by some professionally trained examiner. The budget is a work which should be in preparation the year round. It calls for the accumulation of much detailed information and in its final preparation requires the handling of a great mass of figures. No mayor can personally do all this detail work. He must have an active efficiency department to look after most of the details for him, under his supervision.

MILTON WATER WORKS ITEMS.

From the annual report for 1917 of the water commissioners of Milton, Mass., we take the following interesting figures.

Ten lines of 6-inch and 8-inch mains were laid during the year, the total amount being slightly less than one mile. In connection with these new mains, a hydrant was set for each 557 feet of main on the average, and a gate for each 186 feet. Including the cost of furnishing and setting hydrants and gates, the cost of laying 6-inch pipe averaged \$.89 a foot for labor and teaming and \$1 a foot for pipe and other materials; while the cost of laying 8-inch pipe averaged \$.90 per foot for labor and teaming and \$1.45 for pipe and other material. The several job lengths varied generally from 200 to 1,250 feet; one, however, being only 137 feet and one 99 feet.

The department operated five automobiles consisting of one autocar, three Ford trucks and a Ford roadster. The autocar was 18-horsepower and each of the others was 22½-horsepower. The greatest mileage was made by one of the Ford trucks, 6,679 miles, and the least was made by a Ford truck which had been purchased during

the year and ran 1,636 miles. The average mileage for the five automobiles was 3,934 miles, a total of 19,670 miles. In traveling this distance these cars used 1,922 gallons of gasoline costing \$480.50 and 494 pints of oil costing \$25.34. The total tire expense for the five was \$258.07, of which practically half was for the auto car and the balance for the two older Ford trucks. Additional expenses comprised \$217.40 for supplies, repairs, licenses, etc.; \$981.31 operating expenses; added to which was an allowance of \$662.34 for depreciation, giving a total cost of operating of \$1,643.65. The miles run per gallon of gasoline varied from a minimum of 5.6 for the Autocar to 14.7 for one of the Ford trucks. The other Ford trucks ran 11.1 and 12.0 miles respectively. Including depreciation, the total expense for a one-mile run for the several cars were as follows: Autocar, 19.3c; Ford trucks, 4.9c, 6.9c, 5.3c respectively; and Ford roadster 6.6c.

LAYING WATER MAINS IN DETROIT.

The report of the Board of Water Commissioners of Detroit for 1917 states that work on the construction of new extensions of water mains was materially hampered during the year by shortage of labor and excessive rains, and that in an effort to overcome the difficulties due to the former, use of machinery was resorted to as far as possible. Four mechanical trench excavators were purchased, one operated by steam and three by gasoline, and also four backfillers operated by gasoline and one portable air compressor for caulking. The use of these machines throughout the year resulted in the laying of a larger quantity of pipe and with a considerably smaller force than would have been possible by the use of hand labor only, the result being that the total length of water mains laid was the greatest of any year in the history of the Board.

The total quantity of pipe actually laid during the year was 70 miles, of which 9.5 miles consisted of main feeders 12 inches in diameter or larger. Costs of laying the several sizes, for material, labor, overhead expenses and total, were as follows:

Size, In.	No. of Feet	Material, etc.	Labor	Overhead Expense	Total
4	379	\$.95	\$1.09	\$.13	\$2.17
6	153,296	.71	.46	.05	1.22
8	72,898	.98	.55	.06	1.59
10	4,311	1.38	.69	.08	2.15
12	15,762	1.79	.86	.10	2.75
16	7,574	2.33	1.20	.14	3.67
24	2,007	4.68	2.25	.26	7.19
36	2,077	7.42	3.28	.38	11.08
42	13,112	10.35	5.67	.65	16.67

The unit cost of pipe laid, as shown in the table, is higher than previously. This is due to the higher cost of material; to shortage of labor resulting in gangs too small for good economic results; to higher wages paid, and to unfavorable weather conditions, all of these being contributory factors in raising the cost, which was offset in part only during a portion of the year by the utilization of trenching machines, and by the adoption of the method of laying longer extensions, regardless of whether any houses have been built or started on the line of proposed extensions.

An interesting item in the report concerning consumption shows that the maximum rate of consumption occurred on July 26th, when it reached 55 per cent above the average for the year. The Fire Department reported that the total amount used for fire protection service during the year amounted to but one-seventeenth of one per cent of the quantity pumped.

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City officials and civic organizations are particularly requested to send to Municipal Journal regularly their annual and special reports.

Information Bureau.

Municipal Journal's Information Bureau, developed by twenty-one years' research and practical experience in its special field, is at the command of our subscribers at all times and without charge.

CITY BUDGETS.

Bank depositors who, because of ignorance or carelessness, do not fill out the stubs in their check books (such are occasionally found), are apt to find suddenly that their accounts are exhausted or perhaps overdrawn—an occurrence that does not improve their standing with the bank. A similar disregard of business principles is more or less common with cities. Although less so than formerly, there are still too many which make it a practice to spend what seems desirable with little thought whether the money will hold out until the end of the year. In fact, numerous cases could be cited where it has not held out, but all public work has had to be stopped for several months, policemen and firemen laid off temporarily, and the officials themselves have had to wait for their salaries.

The only sensible and business-like procedure for any municipality is to prepare an annual budget, in which a definite amount is set aside for each department, with a reserve fund for unforeseeable emergencies. The department should be held strictly to the amount allotted to it, and should, in its turn, plan its expenditures for the entire year in accordance with the amount available.

In this practically all agree, in theory if not in practice. But in the manner of preparing the budget there is considerable diversity of practice, and much of it is far from satisfactory. Seldom if ever can each department receive all that it would like, and too often the amount allotted depends more upon the persistence or other personal factor of the official who represents the department than upon the merits of its request. Or else the requests of all departments are scaled down proportionately, which places a premium on extravagance in requests. This plan has nothing to recommend it except saving of trouble. We can see no chance for argument against the principle that the allotments to the several departments should be based wholly upon the relative necessity and importance of the individual purposes for which funds are asked.

Some items are fixed, like interest, sinking funds, and mandatory expenditures. Others are necessary, like those required for the bare maintenance of existing structures and the minimum requirements for water, street lighting, sewer maintenance, street cleaning, etc., while others are desirable in varying degrees. If each department were required to classify every item represented in its request

in some such way, the equitable allotment to the department would be much simplified.

As to the individual or committee that finally determines the amounts of the several budget items, there is difference of opinion. Some would have this determined by the heads of departments themselves acting as a committee, others by a special committee or by the mayor. The advantage of the latter are set forth in an article in this issue, as well as those of giving publicity to the entire proceeding. There are other arguments in favor of a decision by the department heads, or by these and the mayor, with the latter given a veto power.

A NATIONAL DUTY OF THE CITIES.

The co-operation of the municipalities of the country for the carrying on of the war has been given to the utmost—and every appeal of the government has received a full and patriotic response. In every campaign for Liberty loans, W. S. S., food or fuel conservation and the many other activities, the whole machinery and personnel of the city governments have been enlisted generously and successfully.

But the men at Washington need more than backing in their popular war programs. They need technical help, experience and data on a wide variety of subjects and the viewpoint of those whose work brings them close to the public interest and attitudes. While the advice from a city official would be politely received, yet its import would probably be judged by its backing. The individual, his offers and his protests are neither imposing nor effective in Washington in these days of billions and nations. When a man speaks, he must speak with the voice of hundreds and of thousands to be heard. He must speak as the representative of an industry, or a profession, a group, or a class.

The various boards, bureaus and committees at Washington are in real need of data for formulating policies and framing programs. These data are scattered in the records and experience of city officials. A work of real national value would be the co-ordination of this material and its orderly presentation before the proper authorities at the proper time. Some of the subjects upon which such help from the cities has been needed and will be needed in the near future are:

1. The extent, essentiality and requirements of public improvements and the formulation of definite principles for meeting vital public needs consistent with the national needs. The allocation of sufficient equipment and materials, promptly and without friction or unnecessary financial burden, to these undertakings.

2. The financing of these improvements.

3. The relation between the city, the consumer and the public utility. The safeguarding of those principles which have found expression in more modern statutes and franchises. The avoidance of unnecessary transfer of judicial power. The presentation of both sides of questions admittedly controversial in their nature.

4. The labor needs of the municipality. An example is the depletion of the fire-fighting forces of cities by the draft and the consequent increased hazards to munitions and food plants. The recognition that municipal functions are essential and the allotment by the government of adequate labor to carry them on.

5. Localizing of campaigns for public health, public safety and morals.

6. The location of industries and war centers, and the furnishing of adequate facilities.

There are many other subjects on which the cities could help. They must work through a clearing house in order to achieve the greatest results with the least money and effort. The cities owe it to the nation to create such a clearing house at once.

SANITARY ENGINEERS WANTED.

The Public Health Service needs sanitary engineers, and the U. S. Civil Service Commission will receive applications up to August 27th from candidates for such position. The duties include prevention of stream pollution, sanitary surveys, treatment of water, sewage and industrial wastes, drainage, anti-malarial measures and similar work. Applicants must have had five years of practical work and study in a college, including full course in sanitary engineering. In grading applicants, physical ability will count 10, and education, training and experience 90. The salary will be \$1,600 a year, more or less. The service is open to men only. Those desiring to apply should send at once to the Civil Service Commission, Washington, D. C., for Form 1312, examination for Assistant Sanitary Engineer.



ROAD AFTER TREATMENT.

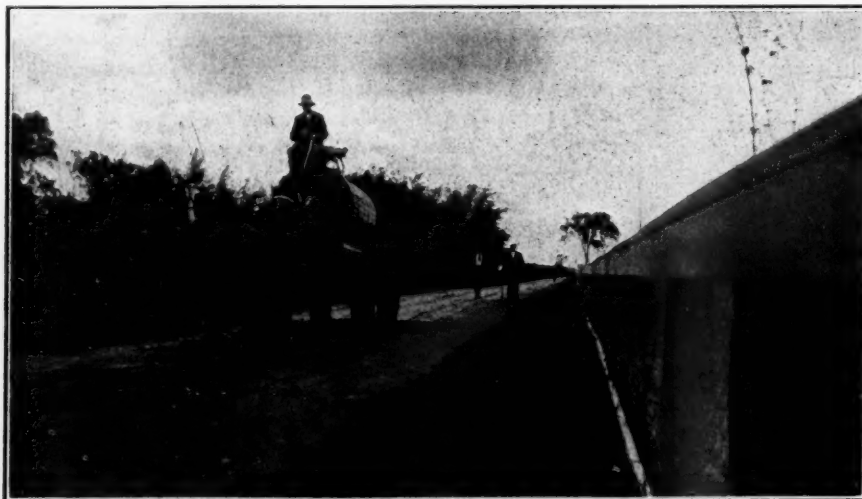
LOS ANGELES OUTFALL SEWER.

The engineer of sewers of Los Angeles, W. T. Knowlton, informs us that in the article in our July 6th issue describing the new outfall sewer built by that city, the width of conduit given in the second column of page 1 as 8 ft. 6 ins. should have been given 8 ft. 8 ins. The capacity given, in the third paragraph in this column, as 166 second feet is that of the sewer when running three-fourths full. The price of brick, given in the second paragraph, first column, of page 2 as \$68.19, should have been given as \$68.79.

We regret the occurrence of these errors, and are glad to make the corrections as Mr. Knowlton requests.

USE OF GLUTRIN IN ORANGE COUNTY.

The State Highway Department of New York has for several years been using a material known as glutrin in the repairing and maintaining of a number of roads, especially those in Orange County. One of these is road number 45 of the State Highway Department, known as the Pine Bush road. This road is 9.25 miles long and contains 54,270 square yards. Glutrin has been used on this road since 1914, in the following way. This road was inspected by the writer in April. Nothing had been done toward putting it in condition except to fill up the few ruts made in the early spring by scraping or honing.



APPLYING GLUTRIN ON A NEW YORK STATE ROAD.

No glutrin had been applied since last year. The road was in good condition regardless of the unusually severe winter. It was a good road for either pleasure cars or any traffic that such roads are subjected to.

As early in the spring as work can be done, the road is honed, if necessary, in order to fill any ruts that spring traffic may have made. Then it is swept clean of dust or other loose material by a rotary broom. If it is not quite damp from a recent rain, it is sprinkled with an ordinary sprinkling cart and any holes are filled with gravel. Following this, glutrin is applied, the average quantity used being 0.157 gallons per square yard. In applying it, three parts of water are mixed with one part of glutrin, and the solution is sprinkled on the road as water would be sprinkled on a macadam street. The material spreads over the surface somewhat after being applied, and consequently is not sprinkled directly over the entire pavement, but a strip about one foot wide is left along each side of the road. The Department has also found that by applying it on the sides first and on the center of the road last, there is less loss of material by its running off onto the shoulders. It is the common practice to sprinkle the roads again about August.

The cost of this work on the Pine Bush road averages \$113 per mile, in addition to the sweeping which costs \$28 per mile, making a total cost per mile of \$141 or 0.24 cents per square yard.

The division engineer of the Highway Department at Poughkeepsie, J. H. Sturtevant, in whose division this road lies, states that glutrin prevents raveling (which is especially common with water-bound gravel roads), penetrating the stone and keeping the water out. It is now being used on all gravel roads in the Poughkeepsie division.

In addition to gravel, the Highway Department is using it as a binder in the construction of macadam roads where limestone is not available, the glutrin being used with the fine material for puddle. In this method of construction a half-gallon of glutrin is used per square yard. This construction was used on the road between Little Falls and Fairfield, a distance of 5.55 miles and on the Remsen-Town Line road, 6.12 miles; the material used in constructing these roads being bastard granite.

The WEEK'S NEWS

War Difficulties of Ohio Highway Contractors—Motor Vehicles in Pennsylvania—U. S. Aids States in Venereal Disease Campaign—Infant Mortality Reduced—Typhoid in North Carolina—New "Lightless Night" Order Restricts Lighting—New York Firemen Join Union and Get Raise—Pittsburgh Firemen Almost Strike—The New Jersey Car Fare Decision—Housing Projects in Erie, Pa.; Charleston, W. Va., and Norfolk, Va.—Ruling Attacks New York Zoning System.

ROADS AND PAVEMENTS

Say Ohio Contractors Will Lose \$600,000.

Washington, D. C.—A number of Ohio highway officials and contractors' representatives were received here by the railroad administration. The delegation made a special appeal that rebate be made on the advanced freight rate established by General Order No. 28, where such order affects road contracts executed prior to its issuance. The hearing was before M. B. Clagett of the administration, and data were presented by the Ohio officials showing the hardship placed upon contractors by the order. It was pointed out that the present laws in Ohio make it impossible for the state, counties or cities to assume any portion of the extra burden placed upon the contractors by the advance in the freight rate, and that this would mean a gross loss from \$600,000 to \$700,000 to the Ohio contractors. It was also stated that if this additional expense were placed upon them the contractors, already burdened by the excess cost of labor and materials, would be unable to continue with their work and would throw up their contracts, leaving road work in a chaotic condition. The distinction between private and public contracts in Ohio was emphasized, and Mr. Clagett's attention was drawn to the fact that the method of letting and the form of contract are prescribed minutely by law and can only be altered by an act of the legislature. As this is an uncertainty, it was the assertion of many of those appearing that a great many of the contractors would be compelled to refuse to go on with the work. It was also questioned whether the bonding companies could be held liable for the excess cost, and if the work had to be taken over by the state whether it would not cost from \$2,000,000 to \$3,000,000 more than the contract prices to finish it. At the completion of the hearing, Mr. Clagett advised the delegation that he would give careful consideration to their appeal and lay it before the Director General of Railroads. The following officials from Ohio were present: Joseph McGee, attorney general; Frank Davis, special counsel under the attorney general; Victor Donahey, state auditor; W. A. Stinchcomb, county surveyer of Cuyahoga County; W. A. Alsdorf, secretary Ohio Good Roads Federation; E. S. Humphreys, of the State Highway Board; G. A. McCormick, of the Contractors' Association; Frederick Bramley, president of the Cleveland-Trinidad Paving Company.

Increase in Motor License Receipts.

Harrisburg, Pa.—That an enormously increased tonnage is passing over the roads and bridges of Pennsylvania is indicated by the report for the half year, submitted to State Highway Commissioner O'Neil by the Automobile Division of the State Highway Department. Receipts from all classes of motor vehicle registration and licensing in Pennsylvania for the period from January 1 to June 30 inclusive, amounted to \$3,732,661, or an increase over the receipts for the same period last year of \$818,830, when the total was \$2,913,837. There were \$319,498 pneumatic tired motor vehicles registered, or 67,710 more than the number for the same period last year when they totaled 251,788. Solid tired motor vehicles—trucks—numbered 25,379, an increase of 10,594 over last year, when the total was 14,785. Trucks weighing from 5,000 and less than 10,000 pounds show the greatest increased registration and experts state that a five-ton truck when fully loaded, may have a weight of

approximately 8,000 pounds on each rear wheel. Motorcycles totaled 21,907, the fees for which amounted to \$64,974. Traction engines totaled 1,529 and trailers 871. There were 64,815 paid drivers, licensed, the fees from whom amounted to \$129,630.

Road Improvements in Canadian Province.

Moncton, N. B.—The comptroller general of the Province of New Brunswick, through press advertisements, is offering to public subscription \$200,000 six per cent, 20-year bonds of the Province of New Brunswick at par. They are exempt from taxation in New Brunswick except succession duties. The proceeds of the issue of these "road debentures" are to be applied to road improvements throughout the Province.

SEWERAGE AND SANITATION

Federal Aid for States' Venereal Disease Fights.

Washington, D. C.—The general appropriation bill recently signed by President Wilson carries an appropriation of \$4,000,000, available in annual instalments of \$1,000,000, for the purpose of aiding state and local health departments in a campaign for eliminating venereal disease in order to protect the men of the military and naval forces. A board is created to be known as the 'interdepartmental social hygiene board, to consist of the secretary of war, the secretary of the navy, and the secretary of the treasury as ex-officio members, and of the surgeon-general of the army, the surgeon-general of the navy, and the surgeon-general of the public health service, or of persons whom the secretaries of the army, navy and treasury may respectively designate. The duties of the board are to be: "(1) to recommend rules and regulations for the expenditure of moneys allotted to the states under section 5; (2) to select institutions and fix allotments to each institution under section 5, and (3) to recommend to the secretary of the treasury, the secretary of war and the secretary of the navy such general measures as will promote correlation and efficiency in carrying out the purposes of this act by their respective departments. The board shall meet at least quarterly, and shall elect annually one of its members as chairman, and shall adopt rules and regulations for the conduct of its business. The secretary of war and the secretary of the navy are authorized and directed to adopt measures for the purpose of assisting the various states in caring for civilian persons whose detention, isolation, quarantine, or commitment to institutions may be found necessary for the protection of the military and naval forces of the United States against venereal diseases." The bill establishes in the bureau of public health service "a division of venereal diseases to be under the charge of a commissioned medical officer of the United States public health service, detailed by the surgeon-general of the public health service, which officer, while thus serving, shall be an assistant surgeon-general of the public health service, subject to the provisions of law applicable to assistant surgeons-general in charge of administrative divisions in the District of Columbia of the bureau of public health service. There shall be in such divisions such assistants, clerks, investigators and other employees as may be necessary for the performance of its duties and as may be provided for by congress. The duties of the division of venereal diseases will be, in accordance with rules and re-

gulations prescribed by the secretary of the treasury, (1) to study and investigate the cause, treatment and prevention of venereal diseases; (2) to co-operate with state boards or departments of health for the prevention and control of such diseases within the states, and (3) to control and prevent the spread of these diseases in interstate traffic; provided, that nothing in this section shall be construed as limiting the functions and activities of other departments or bureaus in the prevention, control and treatment of venereal diseases and in the expenditure of moneys therefor." Provision is made for the appropriation of the sum of \$4,000,000 for the prevention, control and treatment of venereal diseases and out of this appropriation an allotment is to be made to each state, such allotment to be so conditioned that for each dollar paid to any state the state shall specifically appropriate or otherwise set aside an equal amount for the purpose stated, except for the fiscal year ending June 30, 1919, for which the allotment of money is not conditioned upon the appropriation or setting aside of money by the state. The bill also provides that the sum of \$100,000 shall be paid to such universities, colleges or other suitable institutions as in the judgment of the board are qualified for scientific research for the purpose of discovering more effective medical measures in the prevention and treatment of venereal diseases. To universities, colleges or other institutions qualified for scientific research for the purpose of discovering and developing more effective educational measures in the prevention of venereal diseases and for the purpose of sociological and psychological research, \$300,000 is appropriated.

Decrease in Infant Mortality.

New York, N. Y.—An infant mortality survey by the New York Milk Committee shows that New York City has reached the lowest baby death rate in its history. The survey covers the calendar year of 1917, for which the death rate is 88.8. In 1907 the rate was 135.8. This decrease has been accomplished during a decade that brought large increases of population to all the boroughs, including a period when the birth rate was normal at least, and it clearly indicates a progress in infantile conservation far in excess of the values obtained by mere comparison of statistics. It is said that this improvement in recent years should be attributed in part to the several medical and educational campaigns by the health authorities and others for the development of infant welfare work generally, and also in a large measure to the efforts of the Milk Committee, which says: "This decided increase in infant mortality shows that the city is slowly but steadily reaping the benefits of prenatal treatment, which was first introduced here by the New York Milk Committee, and which is now being carried on by the Maternity Center Association in co-operation with the committee and associated organizations." The number of babies under one year who perish annually is still very large. During the year 12,568 died. In 1907, however, the total deaths reached 16,000. The improvement was general in all the boroughs in 1917 with the single exception of the Bronx, where the mortality increased more than five points in excess of the rate for 1916. The report contains a survey for the entire country, based upon figures from 163 of the largest cities, which show, with one exception, decreases in the death rate. The estimated rate for the entire country is 100 per 1,000 living births. According to another estimate there was a total of 2,678,000 births throughout the nation in 1917, and the approximate deaths of all ages were 1,648,000, thus leaving a national and natural increase in population of more than 1,000,000. The lowest mortality for cities of 100,000 or more is found at Omaha and Seattle, which have 59.2 and 59.4 respectively. The low record for the entire country is held by Alameda, Cal., where the rate is 40.7. Four other cities of population below 50,000 that are a fraction above this record are Brookline and Everett, Mass.; La Crosse, Wis., and Berkeley, Cal. The highest mortality of the country was at Nashville, Tenn., at rate of 182.2, with a population of 110,364. Chicago exceeds New York in infant mortality by nearly 18 points, Philadelphia by 21 points and Cleveland by 16 points. Other cities above

the 100 mark are: Baltimore, 119.3; Pittsburgh, 116.2; Detroit, 103.6; Buffalo, 103.7; New Orleans, 113.5; Jersey City, 113.3; Louisville, 110.5; Syracuse, 101.9; Birmingham, 147.5; Memphis, 145.7; Richmond, 134.5; Fall River, 153.8; Grand Rapids, 134.9, and Albany, 103.2. Boston has 98.9, or 10 points above this city.

War Department Alarmed at North Carolina's Typhoid.

Raleigh, N. C.—The War Department has become alarmed over the increasing prevalence of typhoid fever in North Carolina. Colonel Victor C. Vaughan, of the surgeon-general's office, has written a letter to major John J. Kinyoun, attached to the state board of health. It says: "We are alarmed over the condition in North Carolina so far as typhoid fever is concerned. It seems from the reports that typhoid fever is becoming epidemic in many places in North Carolina. We have called upon the United States Public Health Service to attend to this matter. Will you please keep the undersigned posted, by telegram, if necessary, concerning the spread of typhoid fever, and especially concerning what is being done by the state authorities to limit this spread. I am authorized to say that if the state authorities need typhoid vaccine, it can be obtained by application to this office." To this Major Kinyoun made the following telegraphic reply: "Typhoid fever prevails all over the state. Fifty-four counties so far this week report cases. Epidemic in cities and towns in Forsyth, Guilford, Cabarrus, Rowan, Mecklenburg, Cumberland, Wayne, and Rockingham where a large population are exposed to open surface closets, flies, and contaminated water. Worst in Charlotte, Durham and Winston-Salem. All on lines of travel. Same insanitary conditions obtain in country districts. Only fifteen per cent has availed itself of anti-vaccination out of 860,000 population, in former intensive campaign. Board now supplies anti-typhoid vaccine free. Supply ample, but only 33,000 doses sent out in two weeks. State Board can now only act in advisory capacity. Has no direct authority over city and county health officers, who frequently do not ask nor heed advice tendered. Fund for investigation contagious diseases and enforcing present law do not allow placing sufficient inspectors in field. The present disgraceful prevalence of typhoid fever will recur year after year until law enacted compelling people to provide sanitation of every home and prevent soil pollution."

WATER SUPPLY

May Meter Water For Fire Use.

Philadelphia, Pa.—The discovery of the surreptitious use of water for other than fire purposes in one of the large industrial plants of the city has caused the city bureau of water to order a thorough investigation of all large establishments in Philadelphia by the inspectors connected with that branch of the municipal government. There are a thousand large industrial plants scattered throughout the city, which, in addition to being metered for the general use of water, are also connected with the mains by a small fire line. Permits for making fire connections with the water mains are granted by the bureau, but in every instance it is stipulated that the water is to be used only in case of fire, and the applicant is required to enter a bond of \$400 that the regulation will be adhered to. Attached to each of these lines is what is known as a bypass meter, which shows that water has passed through the pipe, but it does not register the amount of water that has been used. Efforts have been made to have all such lines full metered, but objection has been made by both the local and national fire underwriters' associations, on the ground that to full meter such lines would interfere with the flow of water and therefore would defeat the object of the lines in case of fire. In commenting upon the matter chief Carleton E. Davis stated that the present investigation would determine how many of the plants having the fire connections had been using water in this way. "I purpose," said chief Davis, "to impose a stiff penalty in this case as a warning and an example to others not to use water through fire lines. This is more necessary

now than ever before on account of the critical condition of the water system and the inability to meet the demands made upon the different plants by the consumers. During the last week or ten days the average consumption of water in Philadelphia has been 310,000,000 gallons, and the pumping stations have been running from 30,000,000 to 40,000,000 gallons short of the daily need." Chief Davis favors the placing of full meters upon all fire-line connections, and will advocate the installing of such meters in all large industrial establishments when councils reconvene in September.

City Raises Water Rates.

Rock Island, Ill.—All water rates, flat and meter, have been raised by the city council. Those getting their water through a meter have been supplied on the higher rate since July 1. For those on the flat rate beginning October, rates will be increased so that the minimum will be \$9 a year for residences. Commissioner Oldefest estimates that the city revenues will be increased \$30,000 as a result of the ordinance and \$15,000 more is anticipated this year.

Municipal Plant Raises Rates.

Wellsville, N. Y.—The board of water and light commissioners have announced increased electric and water rates. The board states that it takes action with extreme reluctance. It says: "The village has paid mighty little toward the price of its water and light property." The village took over the properties on September 1, 1915. The first move was to make a reduction in electric rates. Water rates were not reduced. "The average weekly payroll for October, 1915," say the commissioners, "was \$159. The average for April, 1918, was \$326. . . . The station force in August, 1915, under the old company, consisted of two engineers and one fireman. Each man worked twelve hours, and the payroll for the three was \$44 per week. The plant is now operated by three engineers and two firemen, who work eight hours and nine hours respectively, and the weekly payroll for these five months amounts to about \$99." Coal in 1915 cost \$2.25 per ton at the plant. From present indications it will average this year about \$5. There has been some increase in water revenues and a very large increase in the electric business. After providing for expenses for the last year and making the "necessary allowance for depreciation" the commissioners were able to put aside only a few thousand dollars toward bond payment. The water and electric rate advances amount to 10 to 15 per cent.

Water Company Gets Consumer Consent to Increases.

East St. Louis, Ill.—An unusual consideration entered into its action allowing an increase to rates of the East St. Louis & Interurban Water Company, taken by the state public utilities commission, this being the result of a canvass among consumers. One witness, according to the report of the proceedings, "testified that in the East St. Louis district some thirty-three consumers would be affected by the proposed rates, which would result in a total increase in revenues of \$40,194, and in the Granite City district twenty-one accounts would be increased with a net increase of \$15,910. Some attempt was made on the part of the applicant to obtain the consents of the consumers to be affected, and the results of this canvass of consumers are given by the witness. He states that in the East St. Louis district the company has signed consents from consumers who will pay 16 per cent. of the revenue increase and that verbal consents were obtained from consumers representing 7 per cent of the proposed increase. There are accounts of stock yards and packing houses, which represent 50 per cent of the proposed increase, from which no consent could be obtained. The remaining 27 per cent of increase is to come from twelve railroad accounts, and the witness stated that he has not interviewed these consumers, owing to the relation existing between them and the Federal Government. In the Granite City district consent was secured from consumers who represent 87 per cent of the proposed increases, the

total remaining 13 per cent representing railroad consumers who were not interviewed for the reason just given."

STREET LIGHTING AND POWER

Commission Raises Gas Rates.

Salt Lake City, Utah.—Increases in cost of labor and material have justified the Utah Gas & Coke company in asking permission to increase its gas rates in Salt Lake City, according to the decision of the state public utilities commission. The new rates, which were the ones requested, are already in effect. The new rates are not to exceed the following schedule: First 20,000 cubic feet, \$1.20 per 1,000; next 20,000 cubic feet, \$1.10 per 1,000. Prompt payment discount. A discount of 10 cents per 1,000 cubic feet will be made when payment is made within ten days from date of bill. The commission says in part: "It is to be hoped that the existing exceptional conditions will not outlast the war, but while they continue, and pending further investigation by the commission, provision should be made for increased revenue. When the present exigency ends there should be a readjustment of rates to a normal basis. Both consumers and stockholders should realize that in a period of great stress such as is upon us at this time, and for which neither are responsible, it cannot be expected that either can continue to enjoy what in normal times might be considered their rights. It is a time that demands sacrifice and self-denial on the part of everybody. On the showing made it would appear that the company cannot afford to give the service for less than the advanced rates proposed in the petition, and, therefore, the increase asked for should be granted during the period of the present emergency, or until otherwise ordered by the commission."

New "Lightless Night" Order.

Washington, D. C.—The restriction of outdoor illumination is again the subject of a fuel conserving order of the Federal Fuel Administration. Light generated or produced by the use or consumption of coal, gas, oil or other fuel for illuminating or displaying advertisements, announcements or signs, or for the external ornamentation of any building, will be discontinued entirely on Monday, Tuesday, Wednesday and Thursday of each week within New England and the states of New York, Pennsylvania, New Jersey, Delaware, Maryland and the District of Columbia, and will be entirely discontinued on Monday and Tuesday of each week in all the remainder of the United States. Street illumination in all cities will be restricted to the hours between sunset and sunrise, and the amount of public lighting in any city will be reduced to that necessary for safety. The order charges local fuel administration officials to arrange with municipal authorities for public lighting regulation. The use of light for illumination or display in shop windows, store windows or in signs in show windows will be discontinued from sunrise to sunset and will be discontinued entirely on the "lightless nights." The Bureau of Standards has advised the Fuel Administration that it is estimated that about 500,000 tons of coal per year is used for advertising purposes, including display and show-window lighting, in the United States. Similar estimates fix the amount of coal used in advertising lighting in New York City at 16,000 tons per year. The order says:

1. No city, village or town, and no person, firm or corporation under any contract with any city, village or town, shall use or consume any coal, oil, gas or other fuel for the maintenance of lights in the streets, parks or other public places of such city, village or town, except under the following restrictions and limitations:

(a) Street illumination automatically lighted, maintained by or for any such city, village or town, in the streets, parks or other public places thereof, shall not be lighted before sunset and shall be turned out not later than sunrise.

(b) Street illumination lighted by hand in any such city, village or town shall conform as nearly as may be to the requirements hereinabove prescribed for automatic lights.

(c) The amount of public lighting in any city, village or town shall be only so much as may be necessary for safety, and the use of lights commonly known as cluster lights for purposes of display or decoration shall be reduced to such portion only of the cluster as is necessary for safety.

2. The local fuel administration for the territory within which any city, village or town is located shall arrange with the proper municipal or town authorities of such city, village or town for the regulation of public lighting in accordance with the provisions of paragraph 1 of this order. Regulations for public lighting so arranged shall in each case be subject to the approval of the proper state fuel administrator, and in case regulations in accordance with said paragraph 1 for the public lighting of any city, village or town satisfactory to the state fuel administrator of the state within which the same is located shall not have been arranged between the local fuel administration and the proper municipal or town authorities, as hereinafter provided, within ten days from and after the effective date of this order, said state fuel administrator is hereby authorized and directed to prescribe such regulations for such city, village or town, and the same shall be valid and binding.

3. Out-door lights within a city, village or town, other than those mentioned in paragraph 1 of this order, which involve, directly or indirectly, the use or consumption of coal, oil, gas or other fuel shall not be lighted until thirty minutes after sunset.

4. (a) The use of light generated or produced by the use or consumption of coal, gas, oil or other fuel, for illuminating or displaying advertisements, announcements or signs, or for the external ornamentation of any building, shall be entirely discontinued on Monday, Tuesday, Wednesday and Thursday of each week within New England and the States of New York, Pennsylvania, New Jersey, Delaware, Maryland and the District of Columbia, and shall be entirely discontinued on Monday and Tuesday of each week in all the remainder of the United States.

Exception: Bona-fide roof gardens where meals are served and out-door restaurants, also establishments devoted exclusively to the exhibition of out-door moving pictures at which admission is charged, are exempt from this section.

(b) The use of light generated or produced by the use or consumption of fuel for illuminating or displaying any shop windows, store windows or any signs in show windows shall be discontinued from sunrise to sunset and shall also be discontinued on the nights specified in paragraph 4 (a).

5. The state fuel administrators within the several states are hereby directed and authorized to see that the provisions of this order are observed and carried out within their several states, to report violations thereof to the United States Fuel Administrator, and to recommend to him action to be taken with respect to such violations.

FIRE AND POLICE

Firemen Join Union—Police Get Raise, Too.

New York, N. Y.—Members of the police and fire departments, occupying the lower grades in the services at pay less than \$1,500 a year, received increases of \$100 to \$150 by unanimous vote of the Board of Estimate, but the first grade in both departments, comprising men in the service four years or more and made up mostly of married men with families, received no increase. Those benefited by the increase are a minority of the force, and the question of increasing the pay of first-class patrolmen and firemen from \$1,500 to \$1,650 a year probably will be taken up when the city budget is made up in October. The increases will become operative on August 1. The increases were voted for the men of lower grades on the ground that the cost of living made it imperative that they receive more money, and because the present scale has been an insufficient inducement for the best men to stay in the service. The wage increases granted were as follows:

POLICE DEPARTMENT.

	Old Scale.	New Scale.
First grade	\$1,500	\$1,500
Second grade	1,400	1,500
Third grade	1,300	1,450
Fourth grade	1,200	1,350
Fifth grade	1,050	1,200
Matrons	1,200	1,350

FIRE DEPARTMENT

First grade	\$1,500	\$1,500
Second grade	1,250	1,400
Third grade	1,050	1,200
Fourth grade	1,050	1,200

The plan of Eli Joseph, a wealthy business man and a special deputy fire commissioner, to increase the wages of firemen and policemen by contributions from men of means interested in maintaining the efficiency of the two departments was discussed by firemen, but their authorized representatives said that the firemen would be unwilling to accept pay from such a fund. The board's action was taken suddenly, after it learned that the firemen had organized and were ready to make a formal demand for a flat increase of 10 per cent for all grades. Police Commissioner Enright asked for an increase for the police and Fire Commissioner Drennan said his force should receive more pay. Of the 3,856 firemen in the city, all but about

200 members of the Uniformed Firemen's Association, joined the International Association of Fire Fighters which is affiliated with the American Federation of Labor. Thomas B. Spellacy, president of the International Association, addressed a meeting of about 600 men, at which a resolution was adopted which said that the uniformed firemen of the city of New York for more than twenty years have endeavored to obtain relief from a system which requires a service of twenty-one hours a day; that they are compelled to remain nine days on duty in order to receive one day for recreation, making their compensation, when mandatory expenses are deducted, less than 20 cents an hour, at a time when unskilled labor is receiving double that amount. Such conditions, said the resolution, are entirely unjust and breed discontent in a body of faithful and patriotic public servants who ask only the treatment accorded men in less perilous work. They declared that they find themselves working under conditions that existed when the paid fire department was organized in 1865, while the uniformed firemen of Chicago, Philadelphia, St. Louis, Boston, Pittsburgh, Newark and other cities have obtained relief in platoon systems and higher pay. Commissioner Thomas J. Drennan said: "The firemen today are enduring great hardship because of the shortage of men. Formerly the firemen had one day off in five, but due to conditions brought about by the war this was changed so that they were given one day off every ten days. Formerly the Civil Service lists contained the names of from 3,000 to 4,000 applicants, where the lists now contain but 300 to 400. It was because of these conditions that the men were asked to take but one day off in ten instead of one in five. So many men were drafted or went into the service and there were so few to take their places that this arrangement was adopted. More pay will go far toward solving this problem. If more money were given the men, I think that men above the draft age would find it attractive to enter the department." Commissioner Drennan said he had written many letters to Washington concerning the exemption of firemen from the draft, but he had no success. He suggested, he said, that if firemen must be drafted that they be detailed to the city for protection of property from fire.

Strike of All Firemen Averted by Federal Mediation.

Pittsburgh, Pa.—A threatened walkout of the city's firemen was averted following a three hours' meeting in the council chamber at which the situation was thoroughly threshed over, when it was agreed that the dispute should be left to the representatives of the Federal and State Department of Labor to take up with the mayor and council, and in the event of no settlement being reached by them, the Federal War Board will be called in to adjust the matter. Until such adjustment the men will remain at their posts. Inasmuch as the mayor and director had agreed that the firemen should have more money, the impression seemed to be that the war board will compel the granting of one of the scales submitted. Council and the mayor already have refused to grant the increase asked by the men. At the meeting was a large delegation of the firemen, whose case was presented by lawyers and leaders. The city officials were surprised when the men announced that the matter had been put into the hands of the mediators, whose offers the mayor had previously refused. The men's wage propositions were that the firemen be given the \$15 a month increase in pay they asked for instead of the \$5 increase the mayor and council agreed to give them July 10, or that a system of wage increases be established running from \$20 a month for the first and second year men to \$12.50 a month for the higher paid men. The council has insisted on letting the mayor take the initiative in raising the firemen's pay, and the mayor has suggested that it was council's part to make the first move. The stand of the firemen is that they have submitted a concrete proposition and that it is up to the city authorities to make an equally concrete counter one. Before the conference, mayor Babcock and director of public safety Pritchard said: "In reviewing the subject it was found that in 1912 the firemen's wages were

substantially increased. That in 1916 Pittsburgh gave its firemen the double-platoon system, making their environment and working conditions vastly better and costing the city approximately \$180,000 per annum perpetually. That a little later they were allowed by the previous administration to retain their beds, thereby adding to their comfort and adding to the city's expense for maintenance, including laundry, soap, towels and other accessories. That at the annual budget period of 1918 they were granted an increase of \$150 per annum and this month have been given an added advance of \$60 per year, making up the above-enumerated salaries. The firemen are allowed two weeks' annual vacation with full pay and have advantage of a good half-pay pension with \$1,000 death benefit without expense to them." The fire underwriters had threatened to cancel risks and raise rates, rating the city as unprotected, if the men should walk out.

Firemen and Policemen Get Raise.

Durham, N. C.—The salaries of all policemen and firemen in the city have been raised. All patrolmen will hereafter be paid \$100 a month, and the older firemen will get a like amount. The traffic sergeants will be paid \$103, and the regular sergeants \$110 a month. The chief will be paid \$1,800 a year. The same raise was given the chief of the fire department. The drivers, mechanics, electricians and others in the fire department will get \$125 a month in the future, and the captains of the various stations will get a like amount. In the police and fire departments the commissioners were finding it impossible to keep the men. So many positions have been opened up during the past six months, which paid better wages, that the men were leaving in large numbers. Some of the older members of both forces have stuck to their jobs until the end of the fiscal year, when they were promised the schedule of increases that has been voted. Had these increases not come, the commissioners say it would have been impossible to keep their men.

TRAFFIC AND TRANSPORTATION

The New Jersey Fare Decision.

Trenton, N. J.—Thomas N. McCarter, president of the Public Service Railway Company, to which the state public service commission denied an application for increased fares, appeared before the commission and apologized for his remarks in an interview in which he called the commissioners "political horse-thieves." Mr. McCarter declared, however, that he did not desire to retract his criticism of the report of the commission. He declared the decision was not in accord with the evidence submitted at the hearings and practically ruined the credit of the company. He asked permission to file the statement as part of the board's records, which was granted. In accepting the apology, Mr. Slocum, president of the board, said: "This board expects to be criticized. It occupies a very difficult position, but it does hope for and always expects to receive fair and constructive criticism." Mr. McCarter's statement said that what the company asked was just enough revenue to allow it to continue to pay a 3 per cent dividend. It showed an absolute need of \$4,000,000 of additional revenue to maintain the 1916 basis, of which amount \$2,500,000 was to be paid for increased salaries. He said that the action of the commission in allowing the company but \$800,000 additional revenue a year from a one-cent charge for transfers means that \$50,000,000 invested in the company will not get a cent of return while present conditions last. The company has now requested increased fare to two and a half cents a mile on interurban lines. In accepting the decision of the commission, the company said, "One of those conditions requires the company to submit a plan for an equitable zoning system by Jan. 1 next. The testimony of the witnesses for the company at the hearing showed that such a plan, if possible to be prepared at all, would require much longer than five months. However, the company will proceed in good faith to prepare the best plan it can as rapidly as practicable and submit it for consideration in the best form possible by the first of January."

George L. Record, who is leader in the fight and associate counsel with Marshall Van Winkle for the cities in the case, said that the fight made by the newspapers and by the League of Municipalities had saved the car riders between two and three million dollars. He said "the decision of the commission in the application of the Public Service Corporation for permission to increase its fares is a compromise between the demands of the company and the contention of the municipalities. The company demanded a seven cent fare and two cents for transfers. It alleged a deficit for the current years of \$3,500,000, which would be met by the increase in fare and the transfers demanded. The board disallows much of the company's proofs and figures and finds that it will have a deficit of increased operating expenses of \$860,000. In order to meet this deficit it allows the company to charge one cent on every initial transfer issued by the company. Speaking generally, the result justifies the vigorous fight against the proposed increase in rates by the leading newspapers of the state and by the League of Municipalities. Without the newspaper opposition and the legal fight put up by the municipalities there is no reason to believe that the company would not have received substantially its full demand. Between two and three million dollars are thus saved to the public as the result of this combined opposition of the newspapers and the municipalities. It is an illustration of the power of public opinion, when intelligently led, over the tremendous power in politics and in government of the public utility corporations. The advantage gained by the company is an additional revenue to be paid by car riders who use transfers of \$860,000. The board bases its conclusion upon a policy which it adopts, that it has to pass upon an application for increased fares without determining the value of the property. This means that the company can get an increase of fare without an investigation to ascertain whether or not its present income is affording a fair return upon the value of its property. So far as I know this decision has never been sanctioned by our courts and I believe that if the case was taken to our courts, this decision would be held to be illegal. In the nature of things the question always is, whether the company is obtaining a fair return upon the value of its property. If it is, all other questions, such as its ability to pay extravagant rentals or dividends upon watered stock, have been repeatedly held by the courts to be immaterial. I believe that the granting to the company of this \$860,000 additional revenue is not justified by the evidence, and ought not to have been made. The company was bound by solemn agreements not to charge over five cents. On the faith of those agreements, it obtained what the courts hold to be perpetual franchises in our streets. These franchises were obtained upon the express pledge not to charge over five cents. If the company is to be allowed to break its pledge or contract, it should only be upon the condition that it gives up the perpetual franchise which it obtained solely upon the faith of this pledge.

Louisiana Cities May Own Street Railways.

Baton Rouge, La.—Legislation has been passed by both houses authorizing cities, towns and villages in the state to co-operate with each other for the purpose of building, owning and operating electric interurban railways and also to build the necessary electric plants to run them. The purpose, it is said, is to give opportunity to furnish cheap and fast transportation facilities all over Louisiana.

Strike Ties Up Atlanta.

Atlanta, Ga.—Following a four-day tie up of the entire system of the Georgia Railway & Power Company, the men returned to work on condition that all controversies be put before the War Labor Board. The interurban lines were affected, except the cars running between Camp Gordon, Fort McPherson and Camp Jesup. In the agreement, the War Labor Board is to decide on wages, working conditions and reinstatement of former employees. The company recognizes the union and concedes the right of the men to join it. The company is allowed to maintain an open shop.

CITY PLANNING AND HOUSING

Industrial Housing in Erie.

Erie, Pa.—Four sites for housing war workers in this city have been purchased by L. W. Monteverde, assistant manager of the real estate division of the Government housing organization. Of the 1,000 homes to be built, 830 will be in the southern part of the city and 170 in the northeast section. It was originally intended to build 310 homes in the northwest part of the city, but the site under consideration was not purchased. The Erie Housing Commission had local charge of the project, and is composed of R. P. Wright, J. M. Sherwin and T. O. Andrews. B. E. Briggs, consulting engineer, prepared topographic maps of the site. Albert H. Spahr of Pittsburgh is the architect of the houses; Charles D. Lay of New York City is the town planning expert, and the firm of Chester & Fleming will act as engineers. Before Congress passed the appropriation for housing, collection was begun of a \$750,000 fund from manufacturers for the work.

To Begin Work on Houses.

Charleston, W. Va.—The Department of Labor at Washington announces that the Wills-Egelhof Co., of New York City, has been awarded the contract for the construction of eighty-five houses at Charleston, W. Va., by the Bureau of Industrial Housing and Transportation of the Department of Labor. This is the first contract for the erection of houses to be authorized under the general housing program which is being administered by the Department of Labor.

Housing at Naval Base.

Norfolk, Va.—The housing committee of the Hampton Roads naval district has announced that tracts of land on Paradise Creek in Norfolk county aggregating about 500 acres, had been acquired and that the Government will finance the erection of a model town of 800 residences for workingmen employed at the naval base, army and ordnance depots. Designs for the village by Geo. B. Post, of New York, have been approved and work will begin at once. The property is located about three miles from the Portsmouth postoffice and is reached by trolley. Rear Admiral Harris will direct the construction work.

Zone Plan Changed Against Majority Property Owners.

New York, N. Y.—After more than two hours' argument of property owners before the Board of Estimate as to whether the zoning system should be amended so as to include as a business block the residential district contained within the limits of Fifty-eighth street between Sixth and Seventh avenues, the board decided that inasmuch as the entire section except this block and the section in Fifty-eighth street between Madison and Tenth avenues is a business district, the restriction limiting business from entering the block in dispute should be lifted. This action was taken after the report of the Committee on City Plan had been received. In view of conditions as they exist the committee reported there was not any good reason for designating this one block as a residential block. The holdings of the property owners consist of high class residences and apartments and include \$5,000,000 of the entire assessed valuation of \$6,030,000 on the block. They argued that the block is of a character so clearly intended to be within the protection of the building zone legislation that any change of the block into a business neighborhood can only be regarded as an attack on the building zone legislation itself. The application to amend the zoning law grew out of contracts made by two women to sell their property, assessed altogether at \$71,000, to Steinway & Sons, who at the same time contracted for the purchase of properties on Fifty-seventh street, directly in the rear. The title was to close on August 1, 1916, but Steinway & Sons refused to take title because the zoning restrictions had then gone into effect and they therefore could not build their proposed business building, which was intended to be a structure ten stories high fronting on Fifty-seventh street and six stories high fronting on

LEGAL NEWS

A Summary and Notes of Recent Decisions— Rulings of Interest to Municipalities

Sewer Assessments—Contest.

(Mich.) Plaintiffs desiring to contest amount of sewer assessments must either point out that method of assessment adopted was wrong, or that, applying proper method, wrong result was reached.—*Kuick v. City of Grand Rapids*, 166 N. W. 979.

County Jurisdiction Over County Roads Within City.

(Or.) Under Laws 1917, p. 588, § 2, and page 613, §§ 2, 5, 7, 10, and 24, county court has exclusive jurisdiction over all county roads within county, necessarily excluding right of municipal corporation through whose limits highways extend from interfering therewith, and neither city nor its officers can superintend outlay of money raised by municipal taxation for maintenance of streets, etc., in improving county roads.—*Cooper v. Fox*, 171 P. 408.

Assessment—Personal Property—Telephone Company.

(Md.) Municipality cannot, in absence of express authority, assess personal property of telephone companies, it being policy of the state not to assess both stock and property.—*City of Hyattsville v. Chesapeake & Potomac Telephone Co.*, 103 A. 133.

(Md.) Municipal charter, if public local law, providing that municipality could assess "all personal property," is too general to prevail over general law specifically exempting personal property of corporations whose stock is assessed, under Code Pub. Civ. Laws, art. 2, § 12.—*City of Hyattsville v. Chesapeake & Potomac Telephone Co.*, 103 A. 133.

Building Ordinance—Fire-Escapes—Constitutionality.

(Ala.) Ordinance of city of Birmingham, requiring buildings more than two stories high, in part or in whole used for certain purposes, to be provided with standard fire escapes, etc., was not unconstitutional as uncertain in terms.—*Birmingham Ry., Light & Power Co. v. Milbrat*, 78 So. 224.

Street railway occupying four-story building as lessee, held under duty to equip it with fire escapes in reasonable compliance with ordinance of city of Birmingham.—*Id.*

(Ala.) Ordinance of city of Birmingham requiring buildings more than two stories high, in part or in whole used for certain purposes, to be provided with standard fire escapes, etc., was not unconstitutional as unreasonable.—*Birmingham Ry., Light & Power Co. v. Milbrat*, 78 So. 224.

Fifty-eighth street. Thereupon suits for specific performance were begun by the two women, Mrs. Flagg and Mrs. Anderson, and Mrs. Anderson's case was the first one tried. The lower court held that the zoning restrictions did not constitute a ground for refusing to take title, but the Appellate Division reversed the lower court, holding that it would be inequitable to require performance inasmuch as both parties understood that the properties were purchased in order to erect on them a business building. This view was upheld by the Court of Appeals. The case went back for a new trial and is pending. At the Anderson trial it was freely contended that it was intended to use the Fifty-eighth street side for the receipt of deliveries, the putting in of coal, the shipment of pianos, the taking out of ashes, refuse, etc., and the usual incidents of a back entrance to a large business establishment. At the hearing it was urged that there is no force to the argument of the petitioners that there are few residence blocks left in the immediate neighborhood. It was stated that this is all the more reason for maintaining and upholding the residence character of the block in question, which is already devoted to residences to which it is suited.

NEWS OF THE SOCIETIES

Aug. 27-29.—LEAGUE OF CITIES OF THIRD CLASS IN PENNSYLVANIA. Nineteenth annual meeting, Erie, Pa. Secretary, Fred. H. Gates, city clerk, Wilkes-Barre, Pa.

Sept. 24-27.—INTERNATIONAL ASSOCIATION OF MUNICIPAL ELECTRICIANS. Annual convention, Atlanta, Ga. Secretary, Clarence R. George, Houston, Tex.

Oct. 2-4.—AMERICAN SOCIETY OF MUNICIPAL IMPROVEMENTS. Annual meeting, Buffalo, N. Y. Secretary, Charles Carroll Brown, 304 E. Walnut St., Bloomington, Ill.

Oct. 14-17.—AMERICAN PUBLIC HEALTH ASSOCIATION. Annual meeting, Boston, Mass. Secretary, 126 Massachusetts Ave., Boston, Mass.

American Association of State Highway Officials.

The American Association of State Highway Officials and the Highways Industries Association have made arrangements under which the two organizations will hold a highway convention in the week beginning Oct. 6. The highway officials will hold their own meetings in the early part of the week and will then join with the Highway Industries Association in joint sessions for the discussion of papers and the highway situation generally.

Chicago is under consideration as the place of meeting, but announcement as to the place will be made later.

New York State Sanitary Officers' Association.

With a record attendance of over seven hundred the State Sanitary Officers' Association of New York held its seventeenth annual conference at Saratoga Springs.

At the opening session Dr. Hermann M. Biggs, commissioner of health of New York State, made a short address, in which he advocated the enactment of the bill giving the boards of supervisors of each county the right to make the county a unit under the control of a single health officer. Governor Whitman paid a tribute to the work of the health officers, both at home and at the front. Dr. Livingston Farrand, director of the Rockefeller commission for the prevention of tuberculosis in France, described the work of his commission. Colonel Simon Flexner of the Rockefeller Foundation discussed medical problems at the front. Dr. Rufus Cole of the same institution spoke on the results of research in reducing mortality from some types of pneumonia.

In the evening the health officers were the guests of Commissioner Biggs at an informal smoker. Superintendent Jones of the Saratoga reservation presented moving pictures of the work of the state conservation commission. Lieutenant F. J. Osborn, U. S. A., exhibited the "Fit to Fight" film of the Commission on Training Camp Activities of the War Department.

On the second day the speakers included Surgeon-General Wm. C. Gor-

gas, Miss Julia C. Lathrop of the federal children's bureau and Dr. Josephine Baker of New York City's child welfare bureau. Dr. Matthias H. Nicoll, Jr., state deputy commissioner of health, spoke on meningitis.

The following officers were elected for the ensuing year: Captain Montgomery E. Leary, Rochester, president; Dr. Halsey J. Ball, Glens Falls, vice-president; Dr. Guy H. Turrell, Smithtown, L. I., vice-president; Dr. C. D. Kline, Nyack, vice-president; Dr. T. E. Bullard, Schuylerville, secretary; Dr. George F. Miller, Oneida, treasurer; Dr. M. M. Metz, Williamsville, assistant treasurer.

Montana State Health Officers' Association.

The annual convention of the Montana State Health Officers' Association was held July 8 and 9 at Butte. While war conditions and effects on public health work was the main subject of discussion, a well-balanced program was presented.

Following the address of welcome by Dr. D. J. Donohue, president of the state board of health, at the opening sessions, Dr. Lawrence Stevens, of Laurel, gave the president's address. Dr. W. A. Russell, Hardin, spoke on

"Conservation and Efficiency in Health Officers' Work"; Dr. Louis W. Allard, Billings, on "Work of Full Time Health Officer," and Dr. A. W. Deal, Lewiston, on "Control of Diphtheria and Scarlet Fever, With Special Reference to Carriers."

At the afternoon session "The Public Health Nurse" was discussed by Dr. P. H. McCarthy, Butte, and Dr. G. A. Lewis, Roundup. Miss Margaret Hughes, Helena, spoke on "War-Time Nursing Problems," and Miss Marion L. Fox, Boston, Mass., described "Treatment of Infantile Paralysis." Following the papers the members took an automobile trip to the state sanatorium at Galen.

The next morning the session opened with a paper by Professor W. M. Cobleigh, Bozeman, on "Sanitary Investigation of Public Water Supplies." "Food Law Administration and Food Conservation" was discussed by H. M. Shea, Bozeman, and Dr. C. W. Matthews, Butte. H. B. Foote, Bozeman, dealt with "The Purpose of Milk Surveys." Dr. Caroline McGill, Butte, opened a discussion of a paper on "Serum Therapy" by Dr. A. H. McCray, Helena.

Dr. A. D. MacDonald, Galen, opened the afternoon session with the subject "Control of Tuberculosis," and Mrs. Sara E. Morse, Helena, discussed "The Work of the State Anti-Tuber-

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PROBLEMS CITIES ARE STUDYING WITH EXPERTS

In building WATERWORKS, Argyle, Minn., had plans prepared by the engineer, T. R. Arnold.

Pembroke, Ont., is to build WATERWORKS to cost about \$60,000. The engineer for the improvement is J. B. McCrae.

STREET IMPROVEMENTS are to be made by Edwardsville, Pa. The engineer for the work is Frederick Butts.

SEWERS are to be built and STREETS improved by East Youngstown, O., the engineer for the work being G. M. Montgomery.

Oconto, Wis., is making STREET IMPROVEMENTS following the completion of plans by the consulting engineering firm of Orbert & Albert.

Holden, Mo., is to build an ELECTRIC LIGHT and POWER PLANT. Preliminary plans have been completed by the consulting engineering firm of Archer & Stevens.

Extensions to its SANITARY SEWER and WATER DISTRIBUTION systems are to be made by Ardmore, Okla., plans being in course of preparation by the Mackintosh-Walton Engineering Co.

Palo Alto, Cal., is having a CITY PLAN and ZONING SYSTEM prepared by Prof. Charles H. Cheney.

The WATER SUPPLY SYSTEM of Walpole, Mass., is to be enlarged at a cost of about \$150,000. The engineer for the work is A. Schuyler Clapp.

Albion, Pa., is to build a SEWAGE DISPOSAL PLANT and SEWER SYSTEM. Plans and specifications for the work are being completed by the engineer, Clyde C. Hill.

A PUMPING and FILTER PLANT is to be built by Weston, Ont., according to plans and specifications prepared by the engineering firm of James, Loudon & Hertzberg.

Macon County, Oglethorpe, Ga., is to build a steel and concrete BRIDGE to cost about \$130,000. Plans and specifications for the structure were prepared by the engineering firm of Garrett & Slack.

In connection with the APPRAISAL by a board of arbitration of the property of the Portsmouth, Berkley & Suffolk Water Co., the city of Portsmouth, Va., has retained the consulting engineer, Gilbert C. White, as its special advocate.

INDUSTRIAL NEWS

Cast Iron Pipe.—The main reliance of pipe manufacturers at present is on Government and housing needs. Government prices are being quoted as follows: Quotations: Chicago: 4-inch, \$65.05; 6-inch and larger, \$62.05; Class A \$1 extra. Birmingham: 4-inch, \$58; 6-inch and larger, \$55; Class A \$1 extra. New York: 4-inch, \$64.75; 6-inch and larger, \$61.75; Class A \$1 extra.

Hollow Tile an Essential Industry.

The Priorities Division of the War Industries Board has reached a decision that hollow tile manufacture is in part a war industry and in part one of national importance, and as such is entitled to a place on the preference list for fuel and transportation.

In a letter to hollow tile manufacturers Judge Edwin B. Parker, Priorities Commissioner, says: "The priorities board is of the opinion that yours is in part a war industry because your product is used in many of the building operations carried on directly by the war agencies of the Government and in the collateral, yet indispensable, housing programs which are being and will be prosecuted in communities where soldiers, seamen and war workers are being concentrated. In the opinion of the board your industry is also in part one of national importance in that a portion of your product is used in land drainage operations and in ensilage saving processes, making possible a higher production per acre and per farmer of foods and feeds, taking into account the labor expended in applying such products to the land."

The priorities board will receive the application of manufacturers of hollow tiles for a place on the preference list. It will consider the fuel situation of each such manufacturer, the amount of his direct and indirect Government business, and the uses to which the remainder of his products are devoted.

The manufacturer must give a pledge of co-operation with the Government that he will not use materials except in the manufacture of products for essential uses as defined and applied by the Priorities Division of the War Industries Board, and that he will guard against resale of his product for any except essential uses. This is not to prevent, however, the sale of small quantities of materials for repairs of or extensions to existing structures involving in the aggregate a cost not exceeding \$2,500.

If in any case the use proposed to be made of the product shall be one not defined as essential but is one which the proposed user conceives to be in the public interest and of such essentiality that it should not be deferred, the proposed user may make a statement of the facts in writing, under oath, to the regional or local representative of the Resources and Conversion Section of the War Industries Board in his district, applying to such representative for his approval of the proposed construction.

Should the regional representative approve the project he should transmit the application for a permit, with his approval and reasons therefor, to the Building Materials Section of the War Industries Board at Washington for submission to the Priorities Division. If approved by that division a construction permit will be issued by the Building Materials Section.

Highway Construction on a Scientific, Business Basis.

"To place at the service of the public the ability and methods that effective business men employ in any great business organization; pursuing a policy that will permanently enlist and justify the active support of the best citizenship in each community; to place at the disposal of the public a remarkable, efficient system of road construction that is durable and so moderate in cost as to mark a new era in contradistinction to the extravagance of the past, is the purpose of and the reason for the existence of Permanent Highways Corporation."

Both "National Pavement" and the organization constructing it—the Permanent Highways Corporation, 50 East 42d street, New York City—are described in an attractive and interesting booklet just issued for general distribution. The pamphlet is well illustrated with photographs of "National" highways and made effective with convincing excerpts from statements by highway engineers, consulting paving engineers and testing laboratories as to the merits of the "National" method.

"National Pavement" consists essentially of earthy materials, such as soil, clay or loam, reduced to such an ultimate degree of fineness that no action or traffic can further reduce or disintegrate them; thoroughly incorporated in special machinery, with high penetration, long-life asphalt. The qualities claimed for this pavement, supported by such authorities as the Kansas City testing laboratories and Dow & Smith, are resiliency, elasticity, imperviousness and therefore permanency.

The discussion of the modern, present-day needs of highway construction is frank and significant, and the responsibility of engineers, officials and contractors for scientific, economical highway construction is fully realized and expressed. The inventors of the "National Pavement" have felt that the construction of good highways must be backed up by a reliable, thorough organization composed of high calibre business men and experts. The president of the Permanent Highways Corporation is John K. Tener, formerly governor of Pennsylvania.

NEWS OF THE SOCIETIES

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culosis Society." Dr. G. M. Magruder, of the United States Public Health Service, and Dr. M. M. Dean, Helena, spoke on "The Control of Venereal Diseases." "Effect on Public Health

Work of Coming Shortage of Doctors" was the subject of Dr. E. G. Balsam, Billings, and Dr. W. F. Cogswell, Helena.

Pacific Highway Association.

The Pacific Highway Association of North America elected the following officers at the recent meeting held at Maryhill, Wash.: President, Samuel Hill; executive officer, J. C. Potter, Portland; senior vice-president for Washington, E. A. Stuart, Seattle; for Oregon, Simon Benson, Portland; for California, Mrs. A. B. Spreckles, San Francisco, and F. W. Jackson, San Diego; for British Columbia, A. E. Todd, Victoria, and F. R. MacD. Russell, Vancouver; for Alaska, Falcon Jolly, Fairbanks; for Yukon Territory, Alfred Thompson, Dawson; for Arizona, Dr. J. A. Ketcherside, Yuma.

Michigan Good Roads Association.

The Michigan State Good Roads Association is to hold its convention September 2-4 at Detroit in conjunction with the state fair. A road school will be conducted the first day by F. F. Rogers, state highway commissioner, for the many county and township road commissioners. The second day will be exhibit day, and papers will be presented on the use of machinery and materials. National speakers and foreign army engineers will be on the third day's program, while it is hoped to stage road building exhibits on a stretch of road in the fair grounds the fourth day. In the interest of a full exhibit of machinery, priority arrangements have been made with the Government to transport goods within the state one way free of charge. Willard M. Bryant, Kalamazoo, is field secretary of the association.

PERSONALS

Ballard, Frederick W., has been appointed power specialist attached to the office of the vice-president in charge of construction of the Emergency Fleet Corporation. Mr. Ballard will be in charge in matters of power requirements for shipbuilding and associated industries. In these matters he will act as the personal representative of the vice-president. Mr. Ballard was formerly superintendent of the well-known municipal lighting plant of Cleveland, O., and later a consulting engineer.

Pollock, Clarence D., of Pollock & Taber of New York, has been appointed by the Bureau of Industrial Housing as engineer for the housing projects of Elizabeth, N. J. (about \$750,000); Kenilworth, N. J. (about \$350,000), and Staten Island, N. Y. (about \$400,000).

Smith, William Fitch, formerly in charge of construction of the Kensico dam for the New York City water supply, is now city manager of the new shipbuilding town of Harriman, near Bristol, Pa., for the Merchants' Shipbuilding Corporation.

ADVANCE CONTRACT NEWS

ADVANCE INFORMATION BIDS ASKED FOR

CONTRACTS AWARDED ITEMIZED PRICES

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also correction of any errors discovered.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREETS AND ROADS.				
Ill.	Mendota	Aug.	3.. 13½ miles gravel road.	A. Windle, Co. Comr.
O.	Cadiz	noon, Aug.	3.. Brick paving and curbing.	H. R. McCoy, Co. Engr.
Cal.	Sacramento	2 p.m., Aug.	5.. Improving roads with portland cement concrete, gravel and asphalt	State Hwy. Comr.
Ill.	Champaign	2 p.m., Aug.	5.. Street improvements	I. E. Pearman, City Clk.
Wash.	Pt. Townsend	2 p.m., Aug.	5.. About 1¼ mile of highway.	Mae M. Plummer, Clk. Board of Co. Comrs.
Wis.	Whitefish Bay	8 p.m., Aug.	5.. 3,600 sq. ft. cement walk.	Wm. Stafford, Street Comr.
Cal.	Sacramento	2 p.m., Aug.	5.. 7,682 lin. ft. pavement.	F. Gregory, Clerk Board Co. Supervisors.
Ind.	Greensburg	Aug.	5.. Supplying river gravel for road repair.	J. C. Barbe, Co. Aud.
Minn.	St. Paul	10.30 a.m., Aug.	5.. Grading and improving streets.	H. W. Austin, Pur. Agt
Wash.	Colville	Aug.	5.. 4½ miles surfacing with gravel.	E. T. Gates, County Auditor.
Ill.	Champaign	2 p.m., Aug.	5.. Improving streets	County Commissioners.
Pa.	Elizabeth	8.30 p.m., Aug.	5.. 10-ton steam road roller, 3 wheels.	Wm. Cadam, Sec. Twp. Comrs., Blythedale.
Wash.	Chewelah	Aug.	5.. 4½ mi. surfacing with gravel.	L. T. Gates, Co. Aud.
Ala.	Tusculum	11 a.m., Aug.	5.. Gravel surfacing 7.7 mi. of road.	W. S. Keller, State Highway Engr., Montgomery, Ala.
Ind.	English	2 p.m., Aug.	5.. Constructing 30 ft. of road.	O. D. Tadlock, County Aud.
Miss.	Fulton	Aug.	5.. Constructing 24 mi. of road, to cost about \$130,000.	County Clerk
W. Va.	Fayetteville	Aug.	5.. Constructing about 4,000 ft. of road, involving 10,000 yds. of excavation	R. J. Stegall, County Clerk
Miss.	Hattiesburg	noon, Aug.	5.. Road truck or tractor, not more than 3 tons capacity, 2 road drags and other drag machinery that may be needed	Herbert Gillis, Clk. Bd. of Co. Supervisors.
Ind.	Rochester	2 p.m., Aug.	6.. Constructing two gravel roads.	Ernest A. Smith, Co. Aud.
Ind.	Delphi	1.30 p.m., Aug.	6.. Constructing two gravel roads.	H. D. Good, Co. Aud.
Ind.	Lawrenceburg	noon, Aug.	6.. Constructing macadam road.	H. E. Lutherbeck, Co. Aud.
Tenn.	Jacksboro	11 a.m., Aug.	6.. Improving and constructing about 15 mi. of road.	J. F. Cooper, Sec. Bd. of Co. Highway Comrs.
Ind.	Valparaiso	2 p.m., Aug.	6.. Furnishing supply of crushed stone.	C. A. Blachley, Co. Aud.
O.	Columbus	noon, Aug.	6.. Grading, draining, curbing and paving with asphalt, brick or stone block; also water service and sewer connections	Geo. A. Borden, Dir. of Pub. Service.
Mont.	Laurel	8 p.m., Aug.	6.. Concrete curbs and sidewalks.	James H. Jordon, City Clk.
Wash.	Okanogan	Aug.	6.. Grading and gravel highway construction, 1 mile.	I. E. Pearman, City Clerk.
Ia.	Davenport	2 p.m., Aug.	6.. Grading and paving with asphaltic concrete or vitrified brick on 5-in. portland cement foundation with pitch filler; cement curb and gutter.	J. W. Crowley, Chrm. Board of Public Works.
N. J.	Trenton	2.30 p.m., Aug.	6.. Road construction involving bituminous concrete pavement, including drainage.	Walter C. Fowler, Clk. Bd. of Chosen Freeholders.
Ore.	Portland	11 a.m., Aug.	6.. 3,800 lin. ft. hard surface pavement.	State Highway Commissioner.
O.	Columbus	noon, Aug.	6.. Grading, draining and paving with asphalt, brick or stone block, and curbing; also laying water service pipe and sewer connections on three streets.	Geo. A. Borden, Dir. Public Service.
W. Va.	Moundsville	Aug.	7.. Constructing pavement on concrete foundation.	J. E. Chase, County Clerk
Ind.	Crown Point	1 p.m., Aug.	7.. Constructing gravel road.	Geo. M. Foland, Co. Aud.
Pa.	Harrisburg	10 a.m., Aug.	8.. 676 ft. vitrified block, Center Co.; 2,334 ft. plain concrete or bituminous concrete and hillside block, Chester Co.; 2,932 ft. plain concrete, Chester Co.; 4,900 ft. plain concrete, Lawrence Co.; 5,700 ft. waterbound macadam on telford foundation, Lebanon Co.	J. Denny O'Neil, State Hwy Comr.
O.	Coquille	10 a.m., Aug.	8.. Constructing concrete and macadam road.	County Commissioners.
S. D.	Sioux Falls	2 p.m., Aug.	9.. Moving 8,560 cu. yds. earth.	P. H. Shenkle, Co. Aud.
Minn.	Cass Lake	8 p.m., Aug.	9.. Paving on several streets.	A. F. Ittner, VII. Clerk.
W. Va.	Williamson	Aug.	10.. Constructing 8 mi. earth road, involving about 63,000 cu. yds. excavation	E. Boggs, County Clerk
N. Y.	Albany	1 p.m., Aug.	12.. Completing following highways: 6.88 mi. and 4.73 mi., Cattaraugus Co.; 6.81 mi., Dutchess; 6.03 mi., 9.14 mi., 5.19 mi., Erie Co.; 3.98 mi., Greene Co.; 2.92 mi., Monroe Co.; 5.24 mi., 3.09 mi. and 3.38 mi., Nassau Co.; 8.63 mi., Ontario Co.; 9.18 mi., Orange Co.; 6.33 mi., Schenectady Co.; 4.29 mi., Westchester Co.; timber crib, Montgomery Co.	Edwin Duffey, State Hwy. Comr.
N. Y.	Albany	1 p.m., Aug.	12.. Completing resurfacing repair contract, two roads in Delaware and Onondaga counties; repairs involve resurfacing in Cattaraugus Co.	Edwin Duffey, State Hwy. Comr.
N. Y.	Albany	1 p.m., Aug.	12.. Completing 4.92 mi. of highway.	Edwin Duffey, State Hwy. Comr.
N. J.	Midland Park	9 p.m., Aug.	12.. Reconstructing highway with portland cement, bituminous concrete or asphalt penetration surface on macadam foundation, involving about 4,217 sq. yds.	McClave & McClave, Engrs., Cliffside, N. J.
N. D.	Mott	2 p.m., Aug.	12.. Turnpiking	E. C. Robers, Co. Aud.
Pa.	Pittsburgh	11 a.m., Aug.	13.. Grading, paving and improving 8,560 ft. of road.	Road Comr., 306 Court House.
N. M.	Santa Fe	2 p.m., Aug.	15.. Constructing three miles of road, including corrugated iron pipe	State Highway Commission.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Va., Roanoke	.....noon, Aug. 22..	Macadam street and granolithic sidewalks.....	A. W. Morris, City Engr.
N. Mex., Santa Fe	.....Aug. 31..	Constructing 21.8 mi. state road, including grading and gravel surfacing	State Highway Com.
N. M., Santa Fe	.....2 p.m., Sept. 16..	Constructing 15.5 miles state road, involving 12,084.8 cu. yds. two-course crushed rock surfacing	State Highway Commission.
Wis., Lake Mills	.....7.30 p.m., Aug. 16..	2,444 sq. yds. reinforced concrete pavement and 2,200 ft. combination curb and gutter.....	V. S. Ravenhill, City Clk.
Ala., Tuskegee	.....11 a.m., Aug. 19..	Road construction	W. S. Keller, State Highway Engr., Montgomery, Ala.
Utah, Ogden	.....Aug. 20..	Constructing 36 miles of road.....	E. E. Kidder, Hwy. Engr.
SEWERAGE.				
Wis., Racine	.....10 a.m., Aug. 3..	Sewer extensions	P. H. Connolly, Bd. of Public Works.
Ind., Anderson	.....10 a.m., Aug. 3..	Constructing drainage ditch involving 5,000 ft. 14, 16 and 22-in. tile and 1,250 ft. open ditch.....	Chas. U. Mohler, Supt. of Ditch Construction.
Ind., Paoli	.....2 p.m., Aug. 5..	Various lengths 16-gage sewer pipe and joining bands for 15-inch pipe.....	P. M. Stephenson, Co. Aud.
N. M., Clovis	.....noon, Aug. 5..	Constructing extensions to sewer system, involving 19,000 ft. sanitary sewer with necessary appurtenances.....	Oscar Dobbs, City Engr.
Fla., Bradentown	.....10 a.m., Aug. 5..	Drain construction and laterals.....	County Commissioners.
O., Dover	.....Aug. 5..	Constructing storm water sewer, involving 3,447 ft. 12, 15 and 18-in. pipe, manholes, laterals, catch basins, etc.; also backfilling.....	L. E. Rippel, City Clerk.
Minn., St. Paul	.....10.30 a.m., Aug. 5..	Constructing sewers on a number of streets.....	H. W. Austin, Pur. Agent.
Ia., Mason City	.....2 p.m., Aug. 5..	Drainage ditch involving about 75,000 ft. 6 to 34-in. tile.....	Geo. E. Frost, Co. Aud.
Ia., Emmetsburg	.....8 p.m., Aug. 5..	625 ft. 8-in. sewer, 1 manhole and 1 flush tank.....	T. F. Rutledge, City Clk.
S. D., Eureka	.....noon, Aug. 5..	Extending sewer system.....	Thos. Ringsrud, City Aud.
Minn., St. James	.....2.30 p.m., Aug. 5..	Drainage ditch construction involving 6 to 30-in. tile.....	A. G. Countryman, Co. Aud.
Ind., Knox	.....noon, Aug. 5..	Galvanized sewers and culverts.....	Chas. W. Weninger, Co. Aud.
Pa., Pittston	.....8 p.m., Aug. 5..	Constructing lateral sewers and house connections.....	City Engineer.
Ore., Portland	.....Aug. 5..	Sewer construction, involving 4,200 6 to 16-inch vitrified pipe, inlets, manholes, etc.....	O. Laurgaard, Engr.
Tex., Waco	.....Aug. 5..	Constructing sewage disposal plant, Imhoff sprinkling system, with 7,000,000 gals. capacity; 8 mi. 15 to 18-in. vitrified clay and 2 mi. 42 to 48-in. concrete sanitary sewers	J. C. Davis, City Sec.
Ia., Garner	.....2:30 p.m., Aug. 5..	Constructing sewage disposal plant with concrete tank, sand filters and sludge bed; 3,750 ft. 18-in. outlet main pipe sewer, 6 manholes; 1,320 ft. 18-in., 2,952 ft. 15-in., 3,400 ft. 12-in., 3,827 ft. 10-in. and 24,185 ft. 8-in. pipe, 80 manholes and 24 flush tanks.....	H. B. Reed, Co. Clk.
Wis., Plymouth	.....8 p.m., Aug. 13..	12, 15 and 20-in. storm sewers and 8-in. sanitary sewer, Y's, catch basins and manholes.....	City Clerk.
Minn., Butterfield	.....8 p.m., Aug. 17..	8,500 ft. 8-in., 2,900 ft. 10-in., 3,000 ft. 12-in. sewer; 200 ft. 10-in., 4,000 ft. 12-in. storm drain and 4,500 ft. 16-in. outfall drain	John F. Enns, Vil. Recorder.
Mich., Allegan	.....Aug. 22..	Drain construction	D. J. Round, Co. Drain. Comr.
WATER SUPPLY.				
N. M., Clovis	.....noon, Aug. 5..	Extensions to water works system, involving furnishing materials and constructing about 22,000 ft. cast-iron water main, including hydrants, valves, etc.....	Oscar Dobbs, City Engr.
Minn., Eveleth	.....8 p.m., Aug. 6..	Installing water line on a number of streets.....	C. H. Williams, City Clerk
O., Hamilton	.....noon, Aug. 7..	One hundred 5/8-in., ten 3/4-in. and five 1-in. disk water meters	F. J. Sloat, Dir. Pub. Serv.
Conn., New London	.....Aug. 12..	Constructing fresh water line, to cost about \$70,000. Specification No. 3,225).....	Bur. of Yards & Docks, Navy Dept., Washington, D. C.
Wis., Cashton	.....8 p.m., Aug. 12..	80,000 gallon steel tank and tower.....	W. S. Woods, Engr., Batavian Bank Bldg., La Crosse, Wis.
Minn., Crosby	.....8 p.m., Aug. 13..	Water works extension, consisting of about 14,680 ft. 6-in., 9,990 ft. 4-in., 547 ft. 8-in. cast iron pipe; 45 fire hydrants, 37 6-in. gate valves, 25 4-in. gate valves, etc.....	John Wilson, Engr., Duluth, Minn.
O., Eaton	.....8 p.m., Aug. 14..	Water works improvements, including pump and motor power	Water Wks. Office.
Ill., Jacksonville	.....Aug. 15..	Constructing dam 500 ft. long, 22 ft. high; concrete spillway, channel and filter plant.....	S. A. Greeley, Engr., 64 West Randolph St., Chicago, Ill.
N. J., Trenton	.....2.30 p.m., Aug. 16..	Furnishing and installing 25,000,000 gal. steam driven centrifugal pump; 20,000,000 gal. electrical driven centrifugal pump; 1 generator; 1 motor, appurtenances, connections, etc.	Alvin Bugbee, Supt. Water Works.
LIGHTING AND POWER.				
Pa., Pennsylvania	.....Aug. 5..	Constructing extension to boiler plant and heating system in emergency barracks, to cost about \$130,000. (Specification No. 3,236).....	Bur. of Yards & Docks, Navy Dept., Washington, D. C.
Md., Indian Head	.....Aug. 5..	Installing mechanical stockers (Spec. No. 3,197), boilers and superheaters (Spec. No. 3,913) in nitrate plant.....	Bur. of Yards & Docks, Navy Dept., Washington, D. C.
Ind., Angola	.....1 p.m., Aug. 5..	Constructing electric light and power plant for county infirmary	Irvin W. Pence, County Aud.
Wis., Manitowoc	.....4 p.m., Aug. 5..	Turbo-Generator unit, 3-panel marble switchboard, 1,500 kw. turbine and 300 hp. boiler.....	Raymond Haupt, Dep. Clk.
D. C., Washington	.....2 p.m., Aug. 5..	Steam jet ash conveyor and installation in boiler room of General Land Office building.....	Dept. of Interior.
N. J., Pompton Lakes	.....8 p.m., Aug. 7..	Erecting foundation, floors and other work of hydraulic power plant bldg.; erecting superstructure of building, including brick work and roofing; entire building complete; two vertical hydraulic turbines; two electric generators and switchboards.....	J. F. Cornelius, Boro. Clerk.
O., Columbus	.....2 p.m., Aug. 9..	Grading and paving with concrete three sections of roadway, 5.71 mi. total, pavement width 16 ft. and roadways 26 ft.	Clinton Cowen, State Hwy. Comrs.
Ia., New Orleans	.....Aug. 12..	Boilers and superheaters at Navy Yard (Spec. No. 3165).....	Bur. of Yards and Docks, Washington, D. C.
D. C., Washington	.....Aug. 12..	Constructing power plans extension and improvements at naval station, Pearl Harbor, to cost about \$150,000.....	Bur. of Yards & Docks, Navy Dept., Washington, D. C.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Okla.	Stillwater	5 p.m., Aug. 12	250 kva., 2,300 volt, 3-phase generator, one exciter, switch-board, one 16 kva., 6.6 amp. constant current transformer, 300 hp. 150 lb. steam pressure boiler and 400 hp. open heater	J. L. Moore, Comr. of Revenue & Accounting.
FIRE EQUIPMENT.				
Minn.	Detroit	8 p.m., Aug.	5..Furnishing 500 ft. 2½-in. standard fire hose	L. J. Bestick, City Clk.
O.	Cheviot	noon, Aug.	6 Triple combination fire truck equipped with 40-gal. chemical tank, 350-gal. per minute pump and capacity for 1,200 ft. 2½-in. hose	Jacob Schmitt, Vil. Clk.
BRIDGES.				
Minn.	Marshall	9 a.m., Aug.	3..Constructing state bridge	Ernest S. Shepard, Co. Aud.
N. Y.	Elma	2:30 p.m., Aug.	3..Reinforced concrete arch bridge	Nathaniel Hucker, Jr., Town Clerk.
Minn.	Caledonia	Aug.	3..Two concrete bridges, 24 and 30-ft. spans	E. N. Newhouse, Co. Aud.
N. D.	Valley City	Aug.	5..Concrete bridge	C. W. Nelson, Co. Aud.
Ia.	Indianola	Aug.	5..Six concrete bridges and culverts	F. O. Laing, Co. Aud.
Cal.	Woodland	Aug.	5..Reinforced concrete bridge to cost about \$30,000	Board of County Supervisors.
Mo.	Mexico	1 p.m., Aug.	5..Constructing two reinforced concrete bridges, each with two 25-ft. spans, with concrete piers and abutments	R. B. Cauthorn, Co. Clk.
Minn.	Duluth	noon, Aug.	5..Constructing concrete arch bridge, 5 spans reinforced concrete, earth filled type, with approach spans	O. Halden, Co. Aud.
Minn.	Duluth	1:30 p.m., Aug.	5..Constructing bridge to cost about \$55,000	O. Halden, Co. Aud.
Ind.	Knox	noon, Aug.	5..Bridges over ditches	Chas. W. Weninger, Co. Aud.
Cal.	Santa Barbara	Aug.	5..Constructing reinforced concrete bridge	C. A. Hunt, Clerk Board of County Supv.
Ia.	West Union	1:30 p.m., Aug.	5..Constructing concrete bridge abutments and pier	Co. Engr.
Ind.	Mt. Vernon	2 p.m., Aug.	6..Constructing two bridges	J. R. Haines, Co. Aud.
Ind.	Monticello	10 a.m., Aug.	6..Constructing three bridges and abutments	F. E. Vincent, Co. Aud.
Ind.	Decatur	10 a.m., Aug.	6..Bridge construction	John Mosure, Co. Aud.
Minn.	Anoka	11 a.m., Aug.	6..Constructing 30-ft. span reinforced concrete bridge, culverts and extensions	Arthur A. Caswell, Co. Aud.
Wash.	Olympia	5 p.m., Aug.	6..Grading and constructing culverts	Hiram Dohm, City Clk.
Minn.	Brainerd	4 p.m., Aug.	6..Reinforced concrete bridge, 14-ft. span	State Hwy. Dept., St. Paul.
Kan.	Westmoreland	1 p.m., Aug.	6..Concrete slab bridge	Ira E. Taylor, Co. Engr.
Minn.	Little Falls	2 p.m., Aug.	6..Reinforced concrete deck girder bridge, 30-ft. span, 18-ft. roadway	State Hwy. Dept., St. Paul.
Ga.	Oglethorpe	11 a.m., Aug.	6..Constructing steel or concrete bridge	A. H. Perry, Co. Clk.
Ill.	McLeansboro	11 a.m., Aug.	7..Constructing reinforced concrete bridge, with 50-ft. span and 18-ft. roadway	Dept. of Pub. Wks. & Bldgs., Div. of Hways., Springfield, Ill.
N. D.	Amidon	Aug.	7..Several reinforced concrete bridges	C. H. Dale Co. Aud.
N. J.	Mount Holly	11:15 a.m., Aug.	7..Constructing concrete arch bridge requiring 180 piles, 622 cu. yds. reinforced concrete, etc.	James Logan, Co. Engr.
Ore.	Coquille	10 a.m., Aug.	8..Constructing bridge	County Court.
O.	Columbus	2 p.m., Aug.	9..Constructing bridges and culverts	Clinton Cowen, State Hwy. Comr.
Pa.	Harrisburg	2 p.m., Aug.	13..Constructing bridge	Geo. A. Shreiner, Supt. Public Grounds and Bldgs.
Pa.	Franklin	Aug.	13..Constructing bridges	County Comptroller.
Minn.	Willmar	2 p.m., Aug.	14..Constructing state bridge, 30 ft. beam span reinforced concrete abutments	Samuel Nelson, Co. Aud.
Minn.	Granite Falls	2 p.m., Aug.	14..Bridge construction	G. H. Wilson, Co. Aud.
W. Va.	Spencer	Aug.	15..Moving two steel bridges, rebuilding them and building a number of new bridges	W. A. Carpenter, County Clk.
N. J.	Lambertville	Aug.	15..Constructing bridge 40 foot span	Grant Davis, Co. Engr., White House Station.
N. M.	Santa Fe	2 p.m., Sept.	16..120-ft. steel span bridge; four 31-ft. six 21-ft., five 12-ft. and one 10-ft. timber trestles; 18 to 42-in. corrugated iron culverts	State Highway Commission.
MISCELLANEOUS.				
O.	Columbus	noon, Aug.	5..One 6-ton tractor and one semi-trailer chassis with 8-yd. steel dump body (alternate bid without dump body) for street cleaning department	Board of Purchase.
N. Y.	New York	noon, Aug.	6..Dredging and removing boulders in several places	U. S. Engineer Office, 44 Whitehall St.
N. J.	Trenton	Aug.	6..Constructing drainage system	H. A. Harris, Co. Engr.
Mo.	Poplar Bluff	Aug.	12..Constructing 36 miles new levees to protect 120,000 acres, involving 1,216,000 cu. yds. excavation, building bridges, etc., to cost about \$850,000	Morgan Engr. Co., Goodwyn Inst., Memphis, Tenn.
N. Y.	Albany	noon, Aug.	13..Placing wash wall protection along canal banks	Frank M. Williams State Eng.
Pa.	Lawrenceville	Aug.	13..Straightening alignment and strengthening dyke	T. J. Lynch, Sec. Water Supply Comrs.
D. C.	Washington	10:30 a.m., Aug.	14..Galvanized pipe, brass tubing, storage batteries, leather and canvas belting, pipe covering, automobile tires and tubes, fire and water hose, tar, etc.	A. L. Flint, Genl. Pur. Officer for Panama Canal, Washington, D. C.
N. Y.	Albany	Aug.	20..Constructing terminal freight house on barge canal at Buffalo; improving terminal site at Troy, and completing excavation at Oswego	W. W. Wotherspoon, Supt. Public Works.

ROADS AND STREETS

Anniston, Ala.—Through the efforts of the Rotary Club committee the lower part of the Jacksonville pike and the upper end of Noble St. will be put in first class shape at once.

Moulton, Ala.—Board of commissioners of Lawrence county will construct road between Moulton and Morgan county

line, to cost \$30,000, of which the county will pay \$11,000, the state \$6,000 and the federal government the remainder. Chairman, board of county commissioners.

Tuskegee, Ala.—Bids received soon for constructing portion of Tuskegee-Columbus road by board of commissioners of Macon county.

Los Angeles, Cal.—Outlet for Southwestern Shipbuilding plant on Terminal Island by means of road connecting plant with Seaside Ave. will be built with funds to be advanced by city. Estimated cost, \$27,000.

Redding, Cal.—State Highway Comm.

and U. S. Dept. of Agriculture reached agreement which will result in almost immediate construction of proposed Redding-Tower House highway. Sixteen-mile stretch will cost about \$200,000.

Santa Ana, Cal.—The new road in the Santa Ana canyon, around Sulphur Slide, will cost the county about \$52,000 and will be built over what is known as the Slope route. Consulting Engineer Homer Hamlin of Los Angeles and County Surveyor J. L. McBride recommended this route in their report after they had made thorough investigation as to the foundation to be found there. Test holes were dug to test the character of the

soil. The problem was a purely engineering one. It is hoped to secure the right of way and get the work started by Sept. 15.

Yreka, Cal.—Government will shortly begin construction of road down Klamath River to chrome deposits of Siskiyou County. Siskiyou Supervisors have contributed \$10,000 toward project.

Arcadia, Fla.—Bids will be asked for construction of Carlstrom and Door field roads, for which federal aid will be given. W. F. Cocke, state highway engineer, Tallahassee, Fla.

Arcadia, Fla.—De Soto county voted in favor of issuing road and bridge bonds, \$30,000. A. L. Durrance, clerk circuit court.

Jacksonville, Fla.—Duval county commissioners considering the proposition to issue road improvement bonds, \$600,000.

Hiwassee, Ga.—Election will be held upon issuance of \$30,000 of bonds by Towns county for constructing roads, the federal government to add \$30,000 to fund. Chairman, board of county commissioners.

Huntington, Ind.—An \$8,000 issue of Huntington county bonds was sold to John B. Staffel, Huntington, Ind., for par.

Indianapolis, Ind.—John J. Griffith, county superintendent of roads, has issued an order to his assistant superintendents that all main roads leading into Indianapolis are to be graded, dragged, or that such treatment be given them as may be necessary to keep them in good condition for travel.

Richmond, Ind.—One-half mile of roadway between the point where the National road, east, and the Eaton pike meet, will be improved soon. Township Trustee J. O. Edgerton.

Houma, La.—Approval of the project of building a fine hard surfaced highway across Terrebonne parish as made by Highway Engineers Duncan Buile, representing the state, and J. B. Fauntleroy, representing the federal government, after inspections, has caused intense interest throughout this section and as a result work is under way all along the line to perfect the preliminaries necessary before state and government aid is available. The approval of the engineers is expected to be followed by the granting of state and federal aid funds to be used in connection with funds raised in Terrebonne and Lafourche parishes, for building the highway, or rather, completing it. When finished it will provide a continuous hard surfaced road from New Orleans to Morgan City which will connect with the Morgan City-Orange, Texas, link in the New Orleans-Houston highway.

Shreveport, La.—City council passed resolution providing for the dedication of 30 ft. of land along the north side of Claiborne Ave., between Linwood and St. Vincent, to facilitate the opening of the street at once to the Fair Grounds. Mayor Ford.

Shreveport, La.—The Greenwood road, leading to the State Fair Park, and a section of the Jefferson highway, the main roadway into Texas, will be surfaced before the opening of the next State Fair if the movement now on foot to make this improvement by public subscription succeeds.

Thibodaux, La.—Lafourche parish will vote Aug. 27 at special election on issuing road district No. 2 bonds, \$35,000.

Brockton, Mass.—E. H. Rollins & Sons of Boston were the successful bidders for an issue macadam pavement bonds, \$27,000.

Hattiesburg, Miss.—City commissioners adopted an ordinance for repairing the pavement on Mobile St. from Pine St. to Front St. and Pine St. from Mobile St. to Gulf & Ship Island Railroad. A. Fairley, commissioner clerk.

Meridian, Miss.—Thirteen miles of road will be constructed in District 2 of Lauderdale county; \$20,000 from bond issue is available, and federal government will pay \$20,000 of cost. Chairman, board of county commissioners.

Great Falls, Mont.—Public Improvements Committee recommended that special improvement district be created for purpose of grading 32d St. between east property line and west gutter line, from First Ave. N. to Second Ave. N. Mayor Fousek.

Camden, N. J.—See "Water Supply."

East Orange, N. J.—City council will on Aug. 12 consider an ordinance for the opening of a public street, as an extension of South Arlington Ave., 60 ft. in width, southwardly from Central Ave. to Elmwood Ave., and situated midway between Freeman Ave. and Oak St. Lincoln E. Rowley, city clerk.

Newark, N. J.—Board of commissioners adopted resolution of intention for paving of Wilson Ave. north of Public Service Railway tracks from the westerly line of Ave. L to the easterly line of Doremus Ave. with old granite block paving on a sand or cinder foundation, with the necessary new curbing or resetting of curb, together with all other appurtenances incidental to the paving of the street, including the laying of concrete sidewalks at the street intersections. Resurfacing of Elizabeth Ave. with an average thickness of 1 in. asphalt top surface on the present brick foundation as follows: East of the street railway tracks, from the northerly curb of Bigelow St. to the West Newark Branch of the Pennsylvania R. R.; west of the street railway tracks, from the northerly curb of Runyon St. to the West Newark Branch of the Pennsylvania R. R. Paving and repaving of Grove St., from South Orange Ave. to the Irvington line on the south and from South Orange Ave. to the East Orange line with 6-in. concrete pavement with the necessary new curbing or resetting of curb, together with all other appurtenances incidental to the paving of the street, including the laying of concrete sidewalks at the street intersections. Thos. L. Raymond, director, dept. of streets & public improvements.

West Orange, N. J.—Town council approved ordinances to establish the grades of Liberty St., from the northerly curb line of Alden St. to the southerly curb line of Washington St.; the curb and center grades of Harrison Ave. from Eagle Rock Ave. to the Montclair line; the center and curb grades of Eagle Rock Ave. from the center line of Washington St. to the southerly curb line of Harrison Ave.; the grades of Condit St. W. F. Vosseler, mayor.

East Aurora, N. Y.—H. A. Kahler & Co., of New York, successful bidders for an issue Centre St. paving bonds, \$21,000. D. N. Rumsey, village clerk.

Olean, N. Y.—Street improvement bonds, \$71,100, has been sold to H. A. Kahler & Co., of New York. R. G. Porsh, city clerk.

Cleveland, O.—E. G. Krause, clerk of the commissioners of Cuyahoga county, will receive sealed bids until 11 a. m., July 31, for \$239,031 5 per cent. semi-annual various street bonds.

Cuyahoga Falls, O.—Village has not sold street improvement bonds offered on June 26. F. O. Vail, clerk.

Findlay, O.—Hancock county has sold an issue inter-county highway No. 22 bonds, \$117,800, to A. B. Leach & Co., of Chicago. F. N. Price, county commissioner.

Lima, O.—Council has passed ordinance for the issuance of the following bonds: West High St. improvement refunding, \$20,300; North West St. paving refunding, \$8,800; Court and Hickory alley improvement refunding, \$4,458.

Painesville, O.—City will take bids Aug. 12 for Sanford St. improvement bonds, \$29,000. G. E. Guisewite, city clk.

Springfield, O.—Council passed ordinance for the issuance of paving bonds aggregating \$52,031.60.

Toledo, O.—Lucas county sold the following bonds: (a) water supply line No. 3, \$23,579.32; (b) water supply line No. 6, \$13,446.42; (c) main sewer district No. 4, \$4,460.37, to Seasongood & Mayer, Cincinnati; (d) main sewer district No. 6, \$8,059.78; (e) main sewer district No. 6, \$2,004.50, to Prudden & Co., Toledo. Gabe Cooper, county auditor.

Troy, O.—Miami county sold privately emergency road bonds to the amount of \$3,300. C. H. Peters, county auditor.

Astoria, Ore.—The county court has received no answer to the call for bids for the improvement of a stretch of the Nehalem road near Leahy Point.

Burns, Ore.—Upon advice from the state highway commission that the \$20,000 allotted to Harney county was only that portion raised by the state and that the federal government would place another \$20,000 with it, making a total of \$40,000, a number of business men passed resolutions that Harney county be asked to put up \$15,000 against the \$40,000 offered by the state and federal government, making a grand total of \$65,000 to be spent on the Bend-Burns-Vale highway this year. It is also made public that Malheur county will receive \$80,000 for the same road providing that county puts up \$20,000 to be used in assisting the highway commission in building this road.

Coquille, Ore.—See "Bridges."

Portland, Ore.—State highway commission of the state of Oregon, 1301 Yeon Bldg., Portland, receiving bids soon for

the construction of approximately 3,800 lin. ft. of hard surface pavement on the Pacific Highway, 1 mile north of Ashland.

Salem, Ore.—State Highway Comm., through State Highway Engineer Nunn, has reported to Governor Withycombe that Oregon will have available during the years 1919 and 1920 for development of good roads the sum of \$15,000,000. This total includes balance of \$6,000,000 road fund which becomes available next year; Federal aid money, Bean-Barrett road bond money, the one-quarter of a mill tax for roads and the money from automobile license fee fund. The expenditure of this amount will be contingent upon close of the war.

Harrisburg, Pa.—Franklin County will receive \$16,847.20 of 1911 cash road tax bonus, which is being repaid to townships this year. This money may be spent by Supervisors for various road and bridge improvement purposes. Antrim (Green Castle, No. 2), Fannett (Dry Run), Guilford (Chambersburg, No. 10), Hamilton (Chambersburg, No. 7), Letterkenney (Chambersburg, No. 4), Lurgan (Mowersville), Metal (Fannettsburg), Montgomery (Green Castle, No. 4), Peters (Lemasters), Quincy (Waynesboro, No. 1), St. Thomas (St. Thomas), Southampton (Shippensburg), Warren (Sylvan), Washington (Waynesboro, No. 4).

Harrisburg, Pa.—Sum of \$12,629.76 will be distributed among eligible second-class townships of Potter County during the year, and will be at disposal of Supervisors for various road and bridge improvement purposes. This amount is Potter County's share of road tax bonus for year 1911, which is due to all townships that have complied with the requirements regarding filing of agreement, copy of bond and annual report with State Highway Department. Abbott (Germania), Allegany (Coudersport), Bingham (Ulysses, No. 1), Clara (Roulette, No. 1), Eulalia (Coudersport), Genesee (Genesee), Harrison (Harrison Valley), Hebron (Coudersport, No. 2), Hector (Sunderlinville), Keating (Keating Summit), Oswayo (Millport), Pleasant Valley (Shingle House, No. 1), Portage (Costello), Roulette (Roulette), Sharon (Millport), Stewardson (Coudersport), Summit (Coudersport, No. 5), Sweden (Coudersport), Sylvania (Costello), Ulysses (Newfield), West Branch (Galeton, No. 1), Wharton (Wharton).

Dauphin County received \$9,842.73. Conewago (Elizabethtown, No. 4), Derry (Hershey), East Hanover (Palmyra, No. 1), Halifax (Pawls Valley), Londonderry (Middletown, No. 1), Lower Paxton (Linglestown), Lower Swatara (Middletown), Lykens (Gatz, No. 1), Reed (Duncannon), Rush (Tower City, No. 1), South Hanover (Hummelstown), Susquehanna (Harrisburg, No. 3), West Hanover (Linglestown), Wiconisco (Wiconisco), Williams (Williamstown).

Rogersville, Tenn.—Hawkins county rejected all bids received for an issue \$100,000 road bonds. I. E. Shanks, secretary county commissioners.

Austin, Tex.—Indorsement by Governor Bobby of a proposition to have the federal government construct a military highway from Florida to California is urged by Governor Catts of Florida. He explained that the plan was to get the co-operation of the states along the gulf and then present the matter to the federal government. The highway, which would be the longest in the country, would take in the old Spanish trail, or Kings Highway, passing through Florida to California, traversing Alabama, Florida, Mississippi, Louisiana, Texas, New Mexico, Arizona and California, a distance of possibly 5,000 or 6,000 miles. In the event the governor indorses the plan he is urged to appoint a committee to meet with like committees from the different states herein mentioned and hold a meeting within the near future in Washington, when the plan could be formulated in concrete form and submitted for the consideration of the government. In discussing the proposition, George A. Duren, state highway engineer, believed the plan feasible and would mean much for the country. The project, however, would mean an expenditure of about \$50,000,000. Governor Hobby will likely give his approval to the proposition.

Cuero, Tex.—Dewitt county, at special election Aug. 13, will vote \$40,000 road bonds. County Judge I. L. Boal.

Kerrville, Tex.—Kerr county voted \$60,000 road bonds.

Weatherford, Tex.—Oil highway from this city to the oil districts of Ranger and Eastland are to be discussed at a

good road meeting here. Curtis Hancock of Dallas, chairman of the state highway commission, plans to attend the meeting.

Ogden, Utah.—City has asked approval of Capital Issues Committee of Twelfth Federal Reserve District with headquarters at San Francisco of proposal to float bond issue to cover city's portion of paving of N. Washington Ave.

Ogden, Utah.—District Forester L. F. Kneipp has received from Chief Forester Graves at Washington approval of an allotment of \$6,000 from the service funds to be used with \$4,000 local funds for the rebuilding of the Cotton Creek road in Star Valley, Wyoming. The work will be started about August 1.

Portsmouth, Va.—Following up the request made of the commission of roads and bridges early in the month for the construction of a concrete pavement on the unpaved side of the Jamestown Blvd., representatives of the board of control of war activities in Hampton Roads district appeared before the board of supervisors and repeated the request.

Bremerton, Wash.—E. J. McCall, city clerk, reports that city council has passed a resolution of intention providing for the improvement of Broadway from the north margin of 8th St., north to the south side of Port Washington narrows, by grading, sidewalk and curbing; same improvement on Warren Ave., from north margin of Evelyn St. north to south side of Port Washington narrows.

Chewelah, Wash.—Earle T. Gates, auditor of Stevens county, receiving bids soon for surfacing with gravel 4½ miles of the Addy Gifford P. N. No. 1-D, according to plans and specifications on file in the office of county engineer at Colville.

Davenport, Wash.—City council has decided to improve by graveling Seventh St., from Park St. to Marshall St.

Pullman, Wash.—Efforts to insure the completion of the east end of the state road through Whitman county to connect with the magnificent Lewiston hill road at the state line will be made by the chamber of commerce upon the suggestion of Senator R. C. McCroskey of Garfield. The Senator presented figures to show that the approximate cost would be \$38,500. Efforts are being made to get \$20,000 of this amount from the national road funds, but this appropriation will be contingent upon the setting aside of an equal amount by the county.

Seattle, Wash.—Bids rejected for paving of Rainier Ave. from Graham to Thistle Sts.

Superior, Wis.—City sold to the Minnesota Loan & Trust Co. \$31,000 general street bonds, recently authorized.

West Allis, Wis.—Council adopted plans for paving 15th Ave. from National to Pershing Ave. City Clerk A. L. Wichner.

New Brunswick, Can.—The comptroller general of the Province of New Brunswick, through press advertisements, is offering to public subscription \$200,000 6 per cent. 20-year bonds of the Province of New Brunswick at par. These bonds are known as road debentures; the proceeds of the issue are to be applied to road improvements throughout the Province. They are exempt from taxation in New Brunswick, except succession duties.

BIDS RECEIVED AND CONTRACTS AWARDED.

(*Indicates Contracts Awarded.)

Los Angeles, Cal.—*J. W. Henderson and Hugh Cornwall, 104 S. Howard St., Glendale, for grading roadway and constructing cement curbs, concrete gutters, reinforced concrete culvert and concrete ditch on Burr Ave., at \$6,983.

Sacramento, Cal.—The following state highway contracts awarded by the advisory board: Alameda county, 8 miles of paved construction between Overacker's Corner and southerly boundary, to *O. C. Ritchie, San Francisco; Shasta county, two reinforced concrete bridges across Slate Creek, 60 and 30 ft., respectively, to *De Warde Bros., San Diego; Mendocino county, reinforced concrete bridge across Outlet Creek, 8 spans, 30 ft. each, to *G. H. Gildersleeves, Berkeley; Monterey county, 10 miles of paved construction between southerly boundary and point 3 miles northwesterly from Bradley, to *J. L. Connor, Los Angeles.

Visalia, Cal.—*White & Gaskill, Long Beach, Cal., for constructing the Visalia-Klink section of Visalia-Redbanks division of the Tulare county highway, approximately 4 miles.

Wilmington, Del.—Following bids received for paving 3,112 ft. Delaware Ave., 53 ft. wide, from 10th St. to point west of Van Buren St., (a) asphalt, (b) brick, from Union Paving Co., 119 Lafayette St., Schenectady, N. Y., (a) \$4.73 per sq. yd., (b) \$6.12; Hastings Pavement Co., 25 Broad St., New York City, (a) \$2.30 for asphalt block, city to supply foundation. Work involves 12,500 sq. yds. street asphalt or 7,500 sq. yds. brick block on 7-in. concrete base, 6,640 ft. brick or asphalt block, gutters, etc. Board Dir., Streets and Sewer Dept.

Acadia, Fla.—*Holmes & Panniel, Tampa, for building clay roads Nos. 4 and 5 in district No. 4, grading \$0.35 per cu. yd., and surfacing \$0.35 per cu. yd.

Fort Pierce, Fla.—*Fellsmere Co., Fort Pierce, for building 4¼ miles hard surface road 8 in road and bridge district No. 1, near Fellsmere, by commissioners St. Lucie county.

Boise, Idaho.—For the construction of approximately 72 miles of roads in Custer and Lemhi counties, which totaled approximately \$419,100, let by the state highway commission. The stretches to be built and the bidders to whom the contracts went were as follows: Approximately 33 miles between Salmon and the Pahsimeroi river, Lemhi county, to *H. H. Boomer, Salmon, for approximately \$298,000; approximately 20 miles between Dickey and Salmon river, Custer county, to *H. E. Cornell, Dietrich, for \$65,000; 18 miles between Mackay and Dickey, Custer county, to *Smith Green, for \$51,000; one and one-eighth miles between Salmon river and Challis, Custer county, to *Smith & Green, \$5,100.

Chicago, Ill.—J. A. Ross & Co., 4561 Armitage St., (a) \$1,329; (d) \$3,105; (e) \$3,407; (f) \$7,322; (n) \$2,137. Central Paving Co., 179 West Washington St., (a) \$1,350; (b) \$6,807; (c) \$5,168; (p) \$2,915; (q) \$6,046; (r) \$3,451; (s) \$2,661; (t) \$2,440; (u) \$4,506; (v) \$3,542; (w) \$1,398; (x) \$6,001; (y) \$19,389. Contg. & Material Co., 10 South La Salle St., (a) \$1,400; (b) \$6,841; (p) \$2,886; (q) \$6,001; (r) \$3,453; (s) \$2,687; (t) \$2,360; (u) \$4,604; (v) \$3,589; (w) \$1,650; (x) \$5,933. P. J. O'Brien, 29 South La Salle St., (b) \$6,764; (c) \$5,191; (d) \$5,360; (e) \$3,571; (f) \$7,384; (g) \$6,473; (h) \$3,458; (i) \$5,252; (j) \$3,892; (k) \$1,768; (l) \$3,825; (m) \$2,944; (n) \$2,425; (o) \$7,825; (p) \$2,925; (q) \$6,116; (r) \$3,599; (x) \$6,002. J. Dillon & Co., 179 West Washington St., (g) \$6,498; (h) \$3,522; (i) \$5,299; (l) \$3,795; (m) \$2,886; (o) \$8,040. Marquette Constr. Co., 133 West Washington St., (d) \$3,268; (e) \$3,527; (f) \$7,337; (g) \$6,399; (j) \$3,859; (k) \$1,752; (n) \$2,337; (y) \$19,280. R. R. Anderson Co., 1841 West Lake St., (l) \$3,751; (m) \$2,765; (o) \$6,890; (u) \$4,422. Smith & Brown, 128 North La Salle St., (y) \$19,085. Bidders for paving alleys and streets received July 17 by board of local improvements

—(a) alley between Eddy, Cornelia, Herndon Sts. and Southport Ave., involving 156 cu. yd. grading, 460 sq. yd. 7 in. concrete; (b) alley between West 12th, Washburne, Blue Island and Racine Aves., 1,644 ft. concrete curb and gutter, 400 cu. yd. grading, 1,290 sq. yd. vitr. brick on 6 in. concrete; (c) alley between West 16th, West 18th Sts., Trumbull and St. Louis Aves., 1,204 ft. concrete curb, 467 cu. yd. grading, 940 sq. yd. vitr. brick on 6 in. concrete; (d) alley between Altgelt St., Fullerton Ave., Ballow and Drake Sts., 320 cu. yd. grading, 120 sq. yd. 7 in. concrete; (e) alley between Lawrence Ave., Leland, Bernard Sts. and St. Louis Ave., 344 cu. yd. grading, 1,200 sq. yd. 7 in. concrete; (f) alley between Lyndale, Palmer Sts., California Ave. and Sacramento Blvd., 760 cu. yd. grading, 1,770 sq. yd. 7 in. concrete, 780 ft. 10 in. tile pipe sewer; (g) alley between Superior, Huron, Paulina and Wood Sts., 1,212 ft. concrete curb, 680 cu. yd. grading, 1,210 sq. yd. vitr. brick on 6 in. concrete; (h) alley between Arthington, Taylor Sts., California and Francisco Aves., 346 cu. yd. grading, 1,260 sq. yd. 7 in. concrete; (i) alley between West 15th, West 16th Sts., Clifton Park, and Central Park Aves., 1,204 ft. concrete curb, 467 cu. yd. grading, 940 sq. yd. vitr. brick on 6 in. concrete; (j) alley between Crystal, Division, Robey Sts. and 475 ft. east, 600 cu. yd. grading, 1,240 sq. yd. 7 in. concrete; (k) alley between Erie, Ohio, Noble and Bickerdike Sts., 250 cu. yd. grading, 570 sq. yd. 7 in. concrete; (l) alley between West 18th Pl., West 19th, Laffin Sts. and Ashland Ave., 326 cu. yd. grading, 1,410 sq. yd. 7 in. concrete; (m) alley between West 16th, West 17th, Paulina and Wood Sts., 200 cu. yd. grading, 1,040 sq. yd. 7 in. concrete; (n) alley between Loban Blvd., Altgelt, Rockwell and Talman Sts., 127 cu. yd.

grading, 880 sq. yd. 7 in. concrete; (o) alley between Monroe, Adams, Paulina and Wood Sts., 100 cu. yd. grading, 880 sq. yd. 7 in. concrete; (p) alley between East 37th, East 38th Sts., Forest and Prairie Aves., 300 cu. yd. grading, 1,030 sq. yd. 7 in. concrete; (q) alley between East 58th, East 59th Sts., Michigan Blvd. and Wabash Ave., 1,220 ft. concrete curb, 150 cu. yd. grading, 1,240 sq. yd. vitr. brick on 6 in. concrete; (r) alley between East 71st, East 72nd Sts., Oglesby and Crandon Aves., 400 cu. yd. filling, 1,160 sq. yd. 7 in. concrete; (s) alley between East 72nd, East 73rd, Oglesby and Crandon Aves., 300 cu. yd. filling, 1,020 sq. yd. 7 in. concrete; (t) alley between East 72nd, East 73rd, Evans Sts. and Langley Ave., 100 cu. yd. grading, 890 sq. yd. 7 in. concrete; (u) alley between Sunnyside, Montrose, Ashland Aves. and Paulina St., 278 cu. yd. grading, 1,420 sq. yd. 7 in. concrete, 212 ft. 10 in. tile pipe sewer; (v) alley between Roscoe, Otto Sts., Southport and Greenview Aves., 244 cu. yd. grading, 1,240 sq. yd. 7 in. concrete; (w) alley between Oakdale, George, Mildred Sts. and Sheeld Ave., 126 cu. yd. grading, 460 sq. yd. 7 in. concrete; (x) alley between West 36th, West 37th, State Sts. and Dearborn Ave., 1,200 ft. concrete curb, 600 cu. yd. grading, 1,070 sq. yd. vitr. brick on 6-in. concrete; (y) West 18th St. from Central Park Ave. west to 1st alley and alley between West 16th St., Ogden, Central Park Aves. and Millard St., 3,630 ft. concrete curb, 1,100 cu. yd. grading, 3,100 sq. yd. vitr. brick on 6-in. concrete.

Peoria, Ill.—*Andrew Biehl, this city, for paving the roadway of Ellis St. from Armstrong to Richmond Ave., with vitrified block, 30 ft. wide, at \$13,399.

Kansas City, Kan.—*Archie Turner, Rosedale, Kan., for resurfacing 1½ miles of road with waterbound macadam, 3,000 yds. grading, 15 concrete pipe culverts, west of Rosedale, at \$12,558.

Red Wing, Minn.—*Foley, Young & Peabody, 418 Merchants' National Bank Bldg., for grading 2½ miles of highway between Pine Island and Dakota county line, \$64,751.

Winona, Minn.—*W. J. Conners, Winona, Minn., for paving Third St. between Washington-Huff Aves., with brick, \$1.94 sq. yd. Geo. W. Hoffman, city clerk.

Cut Bank, Mont.—*F. M. Haas Co., Minot, N. D., for constructing walks throughout town at \$53,515.

Missoula, Mont.—The Carscallan Drainage Const. Co. of Wallace, Ida., was low bidder for road construction work in the Fourth of July Canyon, \$140,000. About 12 miles of road are included in this project.

Fullerton, Neb.—*National Refg. Co., Omaha, for constructing pavements in Dist. No. 6, with sheet asphalt, at \$45,400.

North Platte, Neb.—Central Bridge & Construction Co., Des Moines, Ia., bidder for construction approximately 19 miles earth roads, 102,700 cu. yds. earth excavation, 6,044 cu. yds. mile hauling clay or gravel, 674 lin. ft. concrete pipe, 18-in.; 8 lin. ft. concrete, 24-in.; 20 lin. ft. concrete pipe, 36-in.; 98 cu. yds. concrete. No bids received for excavation. A. S. Allen, county clk. Geo. E. Johnson, state engr., Lincoln.

Wahoo, Neb.—*Russell Condon, Omaha, for surfacing North Bend road.

Brooklyn, N. Y.—Brooklyn Alcatraz Asphalt Co., (a) \$6,632; (b) \$6,914. Sicilian Asphalt Paving Co., 41 Park Row, (a) \$6,998; (b) \$7,297 low bidders for regulating and repaving with asphalt on present concrete foundation (a) 26th St. from 3rd to 4th Aves. (b) 45th St. from 2d to 3rd Aves. E. Riegelman, Boro Pres.

Brooklyn, N. Y.—For furnishing and delivering 10,000 sq. ft. blue stone flagging 2 in. thick, E. Riegelman, Boro Pres., received low bids K. Feist & Sons, Bay St., Tompkinsville, S. I., \$2,260; A. McMuller, 991 Grand St., \$2,100; J. V. Johnson Cut Stone Co., 341 Butler St., \$2,475; furnishing and delivering 4,500 cu. yd. 1½-in. broken trap rock and 200 cu. yd. trap rock screening from N. Y. Trap Rock Co., 1 Battery Place, New York City, \$18,720; New Haven Trap Rock Co., 69 Church St., New Haven Conn., \$18,850; F. J. Gallagher, 490 Park Ave., \$19,175; furnishing and delivering 1,600 cu. yds. sand grits, from J. J. Guinan Contg Co., 2314 Gravesend Ave., \$3,510; B. Turecano Contg Co., 121 Bay 11th St., Co., 69 Church St., New Haven, Conn., \$4,980; C. A. Meyers Contg Co., Morgan Ave. and Stagg St., \$5,850; furnishing and delivering 20,000 wood paving blocks, from Amer. Creosoting Co., 17 Battery Place, New York City, \$1,185.

Brooklyn, N. Y.—Hastings Pavement Co., 25 Broad St., New York City, for paving 2,950 sq. yds. bulkhead between Amity and Warren Sts. with Hastings asphalt blocks, about \$12,537. N. Y. Dock Co.

New York, N. Y.—The following contractors submitted the lowest figures on bids received by Borough President Conolly July 23 for Queens improvements: For regulating, grading, curbing and laying sidewalks, constructing one manhole at the end of the existing sewer and paving with a permanent pavement of sheet asphalt upon a concrete foundation 6 inches in thickness, together with all work incidental thereto, in Wilton Ave., from Glasser St. to Copeland (Cooper) Ave., Second Ward, Sicilian Asphalt Paving Company, \$18,907.50. For regulating, grading, curbing with a permanent pavement of sheet asphalt upon a concrete foundation 6 inches in thickness, in Fourteenth Ave., from Grand Ave. to Jamaica Ave., First Ward, Uvalde Asphalt Paving Company, \$15,566.50. For regulating and paving with a permanent pavement of sheet asphalt upon a concrete foundation 6 inches in thickness in Madison St., from a line about 10 feet east of Doubleday St. to Fremont St., Second Ward, Sicilian Asphalt Paving Company, \$9,379.50. For curbing and paving with a preliminary pavement of bituminous macadam in Abingdon road, from Lefferts Ave. to Brevoort St., Second and Fourth wards, Thomas F. Tuohy & Co., Inc., \$4,571.40. For regulating and paving with a permanent pavement, consisting of improved granite blocks, in Wilbur Ave., from William St. to Sunswick St., First ward, E. W. Fitzpatrick, \$12,632.10. For regulating, grading, curbing and laying sidewalks in Lincoln Ave., from Greenpoint Ave. to Queens boulevard, Second Ward, Welsh Brothers Constructing Company, \$4,202.50.

Bowman, N. D.—Sweeney & Winmill, for 17.7 miles of earth road construction, involving 34,282 cu. yds. excavation, 20,520 cu. yds. turpiking and 20,060 cu. yds. sta. overhaul, at \$15,786.

Fargo, N. D.—Treadwell Twichell, Mapleton, N. D., for constructing Goose River trail through Erie and Downs twps., at approximately \$10,000.

Columbus, O.—State Highway Comm. received low bids for grading and paving 1.22 mi. Cincinnati-Hamilton road, Sect. F, Butler Co., and 1.29 mi. Oxford Millville road, Sect. C-1, from J. M. Hennessey & Bro., Piqua, about \$48,330 and \$54,910.

Cincinnati, O.—G. D. Van Camp, Camp Dennison, Ohio, for repairing Euclid Ave. from Montgomery pike to Camargo pike in Columbia twp., at \$5,173.

Cincinnati, O.—B. G. Van Camp, 3567 Michigan Ave., this city, for repairing Lawrenceburg-Harrison road from Geist road to Indiana state line in Whitewater and Harrison twps., at \$9,758.

Pittsburgh, Pa.—Columbus Asphalt & Paving Co., Ferguson Bldg., for patching Steubenville Pike extension No. 2, west of Carnegie; also Coraopolis Heights road, about \$22,000, by commissioners of Allegheny county.

Sharon, Pa.—W. McIntyre & Sons, Sharon, for paving Depot St., \$3.85 per sq. yd., excavation \$1.38 cu. yd. by city.

Charleston, S. C.—See "Sewerage."

Spartanburg, S. C.—Southern Paving & Constr. Co., James Bldg., Chattanooga, Tenn., about \$126,000 for building roads to Camp Wadsworth, including portion National Highway from Main St. and county line, also Vanderbilt road from Falker and Wofford Sts. to Camp Reservation, brick on concrete base 20 ft. wide.

Bremerton, Wash.—See "Sewerage."

Hoquiam, Wash.—Grays Harbor Construction Co. only bid received for the improvement of Cherry St.: Subgrading, 2 cts. per sq. yd.; clearing and grubbing, \$120; sand fill, \$1.08 per cu. yd.; removal and disposal of old roadway, 6 cts. per lin. ft.; gravel roadway, \$1.50 per cu. yd. The improvement is approximately 2½ blocks in length and the estimate cost is \$6,589. Referred to Commissioner W. A. Jacka.

Montesano, Wash.—Grays Harbor county commissioners recently, for constructing overhead crossing over N. P. Ry. at Elma; road straightening and paving beyond Elma to Haukeli, Hagg & Co., Aberdeen, for \$23,960.

Seattle, Wash.—W. H. Smith, 1212 N. 39th St., \$26,706; Hansen & Maug, \$26,860, and F. N. Badolato, \$28,825, bidders concrete sidewalks on N. and W. 76th St. et al.

Seattle, Wash.—Swensson & Co., for

paving Gilman Ave. and 11th Ave., at \$17,925.

Seattle, Wash.—D. N. Traphagen, concrete sidewalks on 13th Ave. W. et al., at \$84,705.

Spokane, Wash.—H. C. Root for one course concrete construction for paving of Fourteenth Ave. from Monroe St. to Adams St., at \$13,160.

Spokane, Wash.—G. H. Willer, \$2,597; A. K. Copson, \$2,633, and J. C. Broad, \$2,426.65, bidders for the construction of cross walks and curbing on Shannon, from Howard to Monroe.

Union, W. Va.—Monroe county will, by day labor, pave and grade 1.5 mile road, grading 30 ft. wide, macadam 16 ft. wide, involving 8,900 cu. yds. grading, 80 per cent. rock, 14,080 sq. yds. water bound macadam, etc., about \$10,000 per mile.

Green Bay, Wis.—Garvey & Weyenberg, Appleton, for federal aid road, 4½ miles 16 ft. concrete road between De Pere-Kaukauna, \$90,000.

Janesville, Wis.—Chas. Millman, Edgerton, for Newmiller road, crushed stone.

Oconto, Wis.—Chas. Lucia, Big Suamico, for graveling federal aid road 3 miles from Brown county.

Racine, Wis.—James Cape & Son for paving Forest St., \$2.75 per sq. yd. curb, and gutter 75c. lin. ft.

Stevens Point, Wis.—Chris Johnson for paving Ellis St.

Viola, Wis.—Village, by day labor, will pave 2,691 sq. yds; also install 668 lin. ft. 2-in. vitrified pipe sewer.

SEWERAGE AND SANITATION

Brighton, Colo.—For building sewers in northern, eastern and southern sections of town, city will shortly let contract; involves 5,900 ft. 12-in. sewer pipe, 3,000 ft. 8-in. pipe, sanitary sewer, trenching, laying pipe, building septic tank, etc., about \$80,255. R. D. Salisbury, 1415 East Colfax Ave., Denver, Engr.

Macon, Ga.—City voted at election here \$55,000 sewer bonds.

Thomson, Ga.—Citizens will vote Aug. 14 on issuing sewer system bonds, \$21,000.

Shelbyville, Ky.—James C. Wilson & Co., of Louisville, successful bidders for sewer bonds, \$15,000. Camden W. Ballard, clerk, sewerage commission.

Boston, Mass.—Department of public works is considering the construction sanitary sewers of 18-in. and 10-in. earthen pipe and 3-ft. diameter concrete, and surface drains of 20-in., 15-in. and 12-in. earthen pipe and 7 catchbasins in Dorchester Ave., between Savin Hill Ave. and Rawson St., in the Dorchester district. Estimated cost, \$7,500.

Battle Creek, Mich.—City Clerk Thos. H. Thorne will take bids Aug. 5 for an issue \$20,000 sewer bonds.

Mexico, Mo.—No bids received July 8 by city for building sewage disposal plant. Black & Veatch, Interstate Bldg., Kansas City, Mo., Engrs.

St. Joseph, Mo.—About \$16,000 will be spent by city on building a sewer in Morris Ave. from Archer's branch to Brown's branch. H. Johnson, City Engr.

Camden, N. J.—See "Water Supply."

Trenton, N. J.—Instructions to proceed with the awarding of a contract for the construction of additional beds for the Morristown filtration plant were given by the state health board to Nathaniel C. Toms, attorney for Morristown. William H. Frapwell, supt. of sewers, Morristown, N. J.

Pauls Valley, Okla.—See "Water Supply."

Pendleton, Ore.—A septic tank for Pendleton's sewage will be constructed just as soon as possible, according to Acting Mayor Vaughn. For the purpose the city must expend possibly \$5,000 in addition to the \$20,000 in bonds which were voted three years ago. City Engineer Geary Kimbrell will prepare the plans, and when completed bids will probably be asked for the construction work.

Walla Walla, Ore.—City has sold to Morris Bros., of Portland, sewer bonds to the amount of \$7,682.39. J. C. Baird, city recorder.

Del Rio, Tex.—City plans to expend about \$16,000 on building sewerage system. O'Neil Engr. Co., 1505 Praetorian Bldg., Dallas, engineer.

Paris, Tex.—City will, about Sept. 1,

offer for sale sewer bonds, \$20,000. City Clerk J. W. Hayden.

Rinelander, Wis.—No bids received July 17 for furnishing materials and constructing about 2,628 ft. of sanitary and stone sewer with appurtenances. J. D. Gilligan, city clerk.

Moorecroft, Wyo.—Town Clerk R. D. Shackelford will take bids Aug. 5 sewer registered coupon bonds, \$8,000.

St. Catharines, Ont.—Contract soon let by board of public works, building sewage, pumping plant and mains. W. P. Near, Engr.

BIDS RECEIVED AND CONTRACTS AWARDED.

(*Indicates Contracts Awarded.)

Paris, Ky.—D. A. Sant, Cincinnati, O., about \$19,800 by city building 2 mi. sewers.

Dearborn, Mich.—Colman & Harding and Angelo Stafani, both of Detroit, contract for constructing sewerage system involving 66,000 lin. ft. of 8 to 24-in. U. P. sewers, 177 manholes, 2 pumping stations, treatment works, at \$144,301 and \$31,051, respectively.

Austin, Minn.—H. J. Martin and A. F. Newman, Austin, for 2,243 ft. 24-in. storm sewer pipe and 225 ft. 36-in. pipe in St. Paul St. from Bridge to Oakland, \$5,824. M. N. Clausen, civil engr. Pay R. Smith, recorder.

Central City, Neb.—Bishop & McDonald, Central City, for storm sewer, \$678. Chas. F. Newmyer, city clerk.

Ft. Mifflin, Pa.—H. F. Lodge, Inc., 1633 Ranstead St., Phila., sewer and water connections; \$3,000; 25 days. Bureau Yards and Docks, Navy Dept., Washington, D. C.

Charleston, S. C.—John Griffiths & Son Co., Chicago, by war department, for construction of seawall, sewers, roads, sidewalks, piers, water main, electrical system and steam power distributing plant at Paris Island marine barracks; \$1,666,660.

Aberdeen, S. D.—Leo Burgard, Aberdeen, S. D., for lateral sewer in district No. 129, 1,000 ft. 10-in. sewer, 3 manholes, \$2,856. F. K. Raymond, city aud.

Bremerton, Wash.—Sawyer Brothers, engineers of Spokane, for the construction of a 400-room hotel, three apartment houses and 250 dwelling houses, together with the installation of electric lights, sewers and street work by the government. It involves about \$3,000,000.

Spokane, Wash.—Heikkila, Miller & Paulson, at \$8,831, and J. C. Broad, \$7,965, bidders for the construction of a lateral sewer in 19th from Hatch to Grand Blvd.

Manitowoc, Wis.—Gray-Robinson and Walter Bahr low bidders for sewers, \$28,000.

Viola, Wis.—See "Streets and Roads."

Waukesha, Wis.—John McGovern, 424 W. Park Ave., for sewer in Delafield and Lomira St., 8-in. salt glazed vit. pipe sewer, 3 manholes, \$148 per ft. Wm. Powrie, engineer.

West Allis, Wis.—The Kroening Construction Co., for building a storm sewer on Sixth Ave., from George St. to South Burnham St., and the Thomas Leidsich Construction Co., for making repairs in the pumping station of the water works.

WATER SUPPLY

Corcoran, Col.—E. H. Rollins & Sons, of San Francisco, were the successful bidders for an issue water system bonds, \$70,000, recently authorized.

Longmont, Colo.—Probably will install during the year 800 ft. 8-in. cast iron pipe and possibly 1 trench pump. H. F. Shumaker, Water Supt.

Bonifay, Fla.—Town has sold an issue water works and light bonds, \$20,000, recently authorized. W. J. Hailey, town clerk.

Great Bend, Kans.—Will buy 10 service meters, put in 25 house connections and buy 500 feet 4-in., 300 feet 6-in. and 200 feet 8-in. W. I. or steel pipe. El. A. Wright, Gen. Mgr., Great Bend Water & Electric Co.

Holton, Kan.—Plans to lay 400 4-in. cast iron pipe, 20 service connections and 20 new service meters this year. L. S. Pitcher, city clerk.

Seammon, Kan.—For improvement to the water system city plans to install

new machinery and equipment, about \$7,000. J. P. Pollock, City Clk.

Braintree, Mass.—At an estimated cost \$5,000 extension of water works system is considered.

Fall River, Mass.—The water board rejected the only bid received on an 8,000,000-gallon electrically-driven pump for the auxiliary pumping station as being too high. Inasmuch as the board considers it of vital importance to have this new pump installed as a matter of precaution for the water service as well as economy in the conservation of coal, it has been decided to appeal to the war industries board at Washington so that manufacturers of pumps, now engaged in war work, may be permitted to bid on the pump which this city desires to purchase.

Ionla, Mich.—Plans to install 50 service connections and 50 new service meters during this year. Information furnished by Chas. Girard.

Auburn, Neb.—During the year 1918 city will install about 60 service connections and about 75 new service meters. Information furnished by C. A. Snider.

Palmer, Neb.—Citizens voted water and light plant bonds, \$40,000.

Camden, N. J.—Arthur R. Gemberling, chairman finance committee, received no bids July 23 for the following bonds: Water, \$120,000; street, \$72,950; sewer, \$79,300; fire house, \$50,000; school, \$200,000; bridge, \$27,750.

Bacon, N. Y.—Expect to lay during 1918 2,000 ft. 6-in. cast iron pipe; 60 service connections, and 100 1/2-in. new service meters. Daniel J. McGinn, Water Supt.

Newburgh, N. Y.—City will vote Aug. 21 at special election \$610,000 for developing an additional water supply from the Plattekill Creek. Estimate of the cost as prepared by the New York engineering firm of Hill & Ferguson, and including the price of the land. The estimate follows: Dam and reservoir, \$129,402; 24-in. cast iron conduit from the proposed dam to the intersection of North Plank road and Gidney Ave., \$272,231; connecting mains in West St. and Gidney Ave., \$63,697; engineering and contingencies, \$59,670; amount of land options, \$85,000. City manager.

Yonkers, N. Y.—Redmond & Co. and Harris, Forbes & Co., of New York, jointly, successful bidders for an issue \$50,000 water works bonds. James J. Lynch, city comptroller.

Watertown, N. Y.—City voted in favor of issuing \$170,000 water works bonds. Of the total amount \$50,000 will be offered on July 31. City Treasurer H. J. Snook.

Wilmington, N. C.—Improvements to the water works is considered at about \$14,000.

Blanchester, O.—Village rejected all bids for an issue \$5,000 reservoir improvement bonds. W. L. Hixson, clerk.

Cleveland, O.—City sold to the school sinking fund \$170,000 water bonds. C. J. Neal, director of finance.

Medina, O.—Village voted \$6,000 water works improvement bonds. W. P. Ainsworth, village clerk.

Perrysburg, O.—T. C. Hoehler & Co., of Toledo, successful bidder water works bonds, \$9,000. Frank L. Fuller, village clerk.

Durant, Okla.—City plans to lay during the year 5,000 2-in. wrought iron pipe, 150 new service meters and 2 Venturi or other large flow meters. W. H. Perkins, Water Supt.

Pauls Valley, Okla.—City Treasurer Eugene Turner receiving sealed bids Aug. 5 for an issue water works and sewer bonds, \$25,000.

Wilburton, Okla.—Council contemplates the issuing \$30,000 water bonds.

Ontario, Ore.—An extension of the city water mains to the fair grounds to furnish pure drinking water to patrons, and also to furnish means for fire protection to the \$20,000 worth of property on the grounds is the improvement contemplated for this year. Means of accomplishing this are under consideration now.

Tillamook, Ore.—Tillamook water commission has purchased the Big Nestucca drainage district water bonds, \$3,000, at par. E. T. Bolts, attorney for district.

Weston, Ore.—Is to have a new pumping plant which will soon be installed by the city at the station above town, to be used during the dry season in connection with gravity system. Orders to quit irrigating will be issued at once.

Providence, R. I.—The Providence Water Supply Board voted to send to the common council a resolution providing

for the expenditure of approximately \$40,000 for construction of a dam across the Moswansicut river in North Scituate. When built the dam will give the city a reserve of practically 200,000,000 gallons of water. The proposed dam is a part of the original Scituate water supply development plan.

Dallas, Tex.—Plans are being made by Water Commissioner A. C. Cason to construct a pipe line from the Love Field water tank to Bachman's Lake, to carry the surplus water from the military post to the city storage reservoir for future use by Dallas.

Seguin, Tex.—Plans later on to lay some cast iron pipe extensions and will this year install about 300 new service meters; also may install pump of not less than 500 gal. per M. and oil engine of double horsepower of pump—pump out of river. J. F. Guggolz, manager light and water plants.

Fort Worth, Tex.—For an adequate water supply for Camp Bowie and also to serve to provide better protection against fire city commissioners have agreed to extend the 12-in. water main from divisional headquarters to the base hospital, a distance of about one mile.

Portsmouth, Va.—A resolution, presented by chairman Herbert, of the special water committee, giving the Portsmouth, Berkley and Suffolk Water Company the right to make certain improvements desired by the United States government under the supervision of the city manager and the mayor, was adopted; about \$250,000.

Seattle, Wash.—Bids rejected for laying water mains on Baker Ave., et al. To ask for new bids on revised plans eliminating certain walks.

Sheridan, Wyo.—City will lay one-half mile 4-in. cast iron water pipe, 1 1/2 miles 4-in. wood pipe and purchase 1 trench pump and possibly 1 fire department motor truck during the year. W. G. Birkhauser, city comr., in charge of streets and water.

BIDS RECEIVED AND CONTRACTS AWARDED.

(*Indicates Contracts Awarded.)

Monrovia, Cal.—Western Pipe & Steel Co., 1758 North Broadway, Los Angeles, for furnishing 12,000 ft. 16-in., 4,500 ft. 15-in. and 1,500 ft. 8-in. riveted steel pipe for new water mains; about \$20,000.

Hartford, Conn.—O'Neil Bros., this city, and A. C. Sternberg, Inc., West Hartford, for building approximately 4,800 ft. of 48-in. reinforced concrete conduit at \$131,330.

Augusta, Ga.—Allis-Chambers Co., Pennsylvania Bldg., Philadelphia, Pa., at \$19,536 for installing 2 pumps in water works system. Transformer & General Electric Co., River Road, Schenectady, N. Y.; \$6,575 by city.

Hillsboro, Ill.—Field & Shorb, 133 West William street, about \$5,000 for furnishing cast iron pipe for new waterworks system by city.

Topeka, Kan.—A. R. Stimpson, this city, for constructing new pump pit near the water works, at \$9,400.

Baltimore, Md.—Under supervision Evans Construction Co., 1537 Bentalow St., city will lay water mains in 3rd Section Key Highway, South Baltimore, by day labor; about \$12,000.

Newburgh, N. Y.—John J. Masterson, for laying a 10-in. water main in Robinson Ave. between Washington and South William Sts., \$709.50.

Lorain, O.—Pittsburgh Filter Mfg. Co., Farmers Bank Bldg., Pittsburgh, for furnishing filter bottoms and manifold castings for water works improvements; cost \$100,000.

Ft. Mifflin, Pa.—See "Sewerage."

Charleston, S. C.—See "Sewerage."

Spanish Fork, Utah.—Chris Larsen, this city, for constructing 100x100 cement reservoir, including 7 miles of redwood pipe, at \$37,375.

Appleton, Wis.—John Dettman, for water main trenches on Loraine and Flar Sts.

Mosinee, Wis.—Lou Gardner, for waterworks extension.

West Allis, Wis.—See "Sewerage."

LIGHTING AND POWER

Los Angeles, Cal.—The diversion of the earnings of the city's municipal power system for the construction of

the proposed power plant No. 2 has been approved by Franklin K. Lane, secretary of the interior. The City Club has sent a recommendation to the mayor and city council urging that the money received be used for immediate construction of the plant.

Bonifay, Fla.—See "Water Supply."

Palmer, Neb.—See "Water Supply."

Canton, O.—It is reported that the Timken Roller Bearing Co. will erect a power plant to furnish their power. The company was granted permission to increase its capitalization from \$200,000 to \$10,000,000, and a part of this will be expended for the power station, it was said.

Nelsonville, O.—Aug. 10 city auditor will take bids on electric light improvement bonds, \$2,500.

BIDS RECEIVED AND CONTRACTS AWARDED.

(*Indicates Contracts Awarded.)

Phoenix, Ariz.—City commission adopted resolution embodying the form of a contract for the lighting of the city, submitted by the Pacific Gas and Electric Company. This resolution closes the proposal empowering the city to take over the lighting system at any time. V. A. Thompson, City Manager.

Charleston, S. C.—See "Sewerage."

Bremerton, Wash.—See "Sewerage."

FIRE

Boise, Idaho.—Bids will be asked for 1,000 ft. of two and one-half-in. fire hose and for a chassis of a new or second-hand auto that will have a carrying capacity of 4,000 pounds, to be made over into a chemical truck. The auto must be of a high-grade standard.

Camden, N. J.—See "Water Supply."

Hudson, N. Y.—Village Clerk R. S. Sanford receiving bids Aug. 20 for an issue \$3,000 fire department bonds.

Creston, O.—Village Clerk W. K. Bechtel receiving bids Aug. 15 for an issue fire department bonds, \$2,500.

Medina, O.—Village voted \$12,000 fire engine bonds. W. P. Ainsworth, village clerk.

Pauls Valley, Okla.—City Treasurer Eugene Turner receiving sealed bids Aug. 5 for an issue \$9,000 fire equipment bonds.

Woonsocket, R. I.—City council finance committee, of which Councilman Joseph J. Bliss is chairman, joined its recommendation with a previous one with the joint standing committee on fire department, and at the August meeting of the common council will present a report recommending the expenditure of \$8,000 for purchasing a motor-driven triple combination fire wagon. The apparatus will be equipped with hose, chemicals and an electric pumping arrangement. Fire Chief Cote.

BIDS RECEIVED AND CONTRACTS AWARDED.

(*Indicates Contracts Awarded.)

Sandusky, O.—Following bids received for triple combination 750-gal. pumping engine and 50-ft. service ladder truck. Engine: The Seagrave Company, Robinson Fire Apparatus Mfg. Co., cylinder; the White Co., Cleveland, O., four-cylinder; Ahrens-Fox Fire Engine Co., four-cylinder; American-La France Fire Engine Co., six-cylinder; Seagrave Co., six-cylinder. Truck: The Seagrave Co., Robinson Fire Engine Mfg. Co., American-La France, four-cylinder, six-cylinder.

Altoona, Pa.—Bidders for furnishing motor fire apparatus. For triple motor combination tank, American-La France Fire Engine Co., 6 cylinders, 105 horse power, 800 gallons capacity; Ahrens Fox Fire Engine Company, 6 cylinders, 110 horse power, 800 gallons capacity; Seagrave Company, 6 cylinders, 125 horse power, 800 gallons capacity. For furnishing city service truck—American-La France, 6 cylinders, 105 horse power; 4 cylinders, 75 horse power; 4 cylinders, 65 horse power; Seagrave Company, 6 cylinders, 110 horse power.

BRIDGES

Marysville, Cal.—The Yuba Supervisors have decided to construct a concrete bridge over Reed Creek near the M. C. Lazier place, one mile southeast of Arboga, at a cost of \$2,500. The span is 23 feet, and the new bridge will replace one of wood.

Nevada City, Cal.—The Advisory Board of the State Department of Engineering has passed a resolution requesting the boards of supervisors of Nevada and Yuba counties to proceed with the construction of a bridge across the middle fork of the Yuba River near North San Juan.

Arcadia, Fla.—See "Streets and Roads."

Fernandina, Fla.—Nassau county board of commissioners has asked the Florida state highway commission to prepare plans for bridge to be erected over St. Marys river at Wilds Landing; will be built by Nassau county and Camden county, Georgia.

Marianna, Fla.—The bridge warrants issued by Jackson county for its part in the construction of the Apalachicola river bridge connecting West Florida with the remainder of the state, were sold to Powell, Gerard & Co., of Chicago.

Quincy, Fla.—Gadsden county rejected all bids received for an issue bridge bonds, \$30,000. F. F. Morgan, clerk, county commissioners.

Riverview, Md.—For the construction of a concrete and steel bridge over South river here commissioners Anne Arundel county, Annapolis, plan to expend about \$15,000. E. T. Hayman, county engineer.

Dedham, Mass.—Norfolk county awarded to Harris, Forbes & Co., and Estabrook & Co., of Boston, jointly, Monatiquot River bridge notes, \$150,000.

Lawrence, Mass.—Merrill, Oldman & Co., of Boston, were the successful bid-

ders for an issue Central bridge loan bonds, \$120,000.

Great Falls, Mont.—Citizens in the Highwood section are looking forward to the completion of the bridge to be built over the Belt creek at a point about one mile from the mouth of the stream. Bids are now being asked for the construction and will be built jointly by Cascade and Chouteau counties.

Camden, N. J.—See "Water Supply."

Toledo, O.—East Side citizens are urging that the Cherry street bridge be resurfaced with sheet asphalt.

Coquille, Ore.—The county court of Coos county will receive bids soon for the construction of a bridge over the south fork of the Coquille river at Powers and for concrete-macadam pavement through Bunker Hill addition to Marshfield on the Coquille-Marshfield road.

Seattle, Wash.—City Engineer Dimock has completed plans for construction of the proposed Yesler Way viaduct to run from First Ave. and Yesler Way to the waterfront. The plans call for a 350-foot concrete and steel approach to the 135-foot Howe truss span across the railroad tracks. The approach will be 10 feet wide and necessary guard rails are provided. The span will be 12 feet in width and is intended for pedestrian traffic only. Eight-inch pipe posts, steel "I" beam girders and stringers will support the concrete approach. The exact cost of the improvement has not been estimated by the city engineer's department. Approval of the plans by city department heads is expected shortly.

BIDS RECEIVED AND CONTRACTS AWARDED.

(*Indicates Contracts Awarded.)

Hamilton, O.—County commissioners, to *William Fogarty, to repair the bridge at the Shafer-Kennedy farms in Fairfield township, \$118.60.

Warwick, R. I.—*John A. Lawson, of Pontiac, for building a cement concrete bridge over the Buckey brook, \$700. Commissioner Sprague.

Seattle, Wash.—*H. C. Malott, 6526 17th Ave., N. E., to construct two bridges in Whitman county, by the board of county commissioners; one over Union Flat creek at Colton, which will consist of two arches, and is to be 80 feet long, \$12,985; and a 28-ft. arch to be constructed at Farmington, Wash, \$3,790.

MISCELLANEOUS

Washington, D. C.—The department of labor authorizes the following: The bureau of industrial housing and transportation announces that contractors have been invited to send in bids for government residence halls planned for war workers in the District of Columbia. Groups containing unit buildings, each consisting of 150 rooms, will be located at the Union Station Plaza and on the site bounded by 14th, 15th and B Sts. and Ohio Ave. N. W.

Peoria, Ill.—City council plans to advertise and sell \$50,000 of the proposed \$250,000 bond issue for harbor improvement, favorably ruled upon by the capital issues committee as a start toward the system of wharves, tracks, etc., that will be built on the frontage above Hamilton St. City comptroller, J. J. Crowder.

Hagerstown, Md.—That the United States Government has decided to advance \$5,000,000 to the Western Maryland Railway Company, to be spent for improvements to tracks, yards and equipment was reported here. It is stated \$3,000,000 will be expended for most of the operating of the Western Maryland system will be conducted from that city in the future. Two million dollars, it is said, will be expended for equipment to handle the immense volume of freight which it is planned to divert to the Western Maryland.

TOO LATE FOR CLASSIFICATION

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREETS AND ROADS.				
Tex., Dallas	.....10 a.m., Aug.	5..	Grading and graveling.....	J. F. Witt, Co. Engr.
Mont., Ryegate	.....8 p.m., Aug.	5..	Constructing walks.....	Claude A. Renshaw, Engr., Roundup, Mont.
Mich., St. Clair Hghts.	8 p.m., Aug.	7..	Paving a number of streets.....	David Thibault, Vill. Clk.
Ind., Richmond	.....10 a.m., Aug.	8..	Constructing cement roadway.....	Bd. of Pub. Wks.
N. Y., New York	.....noon, Aug.	12..	Regulating and paving with granite blocks; constructing concrete curb with steel guard and laying concrete sidewalks.....	C. D. Van Name, Boro. Pres., Richmond, St. George, S. I.
Wash., Buckley	.....Aug.	14..	Paving street with one-course concrete.....	W. B. Osbourn, Town Clk.
SEWERAGE.				
S. D., Mobridge	.....Aug.	19..	Installing sewer system.....	City Clk.
WATER SUPPLY.				
Ill., Elmhurst	.....8 p.m., Aug.	5..	Drilling and constructing well.....	Edwin Hancock, Engr., 2047 Ogden Ave., Chicago, Ill.
D. C., Washington	.....3 p.m., Aug.	5..	Cast iron water pipe.....	Purchasing Officer, 320 District Bldg.
Wis., Cashton	.....8 p.m., Aug.	12..	80,000-gal. steel tank and tower.....	W. S. Woods, Engr., La Crosse, Wis.
Colo., Denver	.....2 p.m., Aug.	12..	Direct pumping unit for pumping plant, Grand Valley project.....	U. S. Reclamation Service.
N. J., Boonton	.....8 p.m., Aug.	14..	Constructing water works improvements in three sections; constructing pumping station complete, including 2-in. and 4-in. electrically driven direct connected centrifugal pumps; constructing 20-ft. extension to top of present steel standpipe, including painting; furnishing and laying about 3,000 ft. 6-in. cast iron pipe, including necessary valves, hydrants and fittings.....	Clyde Potts, Engr., 30 Church St., N. Y. C.
S. D., Pierre	.....Aug.	15..	Equipment for improving water system.....	Kenningson Eng. Co., Omaha, Neb.
FIRE EQUIPMENT.				
Mich., Detroit	.....Aug.	5..	Furnishing 500 ft. 2½-in. hose.....	City Clk.
Pa., Avalon	.....8 p.m., Aug.	6..	Motor driven fire apparatus.....	James M. Duff, Boro. Sec.
N. J., West Hoboken	.....Aug.	7..	Fire engine.....	Town Council.
BRIDGES.				
Tex., Houston	.....10 a.m., Aug.	5..	Constructing two concrete culverts.....	H. L. Washburn, Co. Aud.
Tex., Dallas	.....10 a.m., Aug.	5..	Bridge construction.....	J. F. Witt, Co. Engr.
Cal., Los Gatos	.....11 a.m., Aug.	19..	Constructing reinforced concrete bridge.....	Co. Surv.

STREETS AND ROADS.

Los Angeles, Cal.—Construction of a heavy traffic road between the Harbor boulevard and Smith's Island, connecting with the plants of the Los Angeles Shipbuilding and Drydock Co. and the Standard Oil Co., was assured. The council adopted a joint report of the harbor and finance committees recommending the building of the road at a cost of \$13,500. This road, which will be of protected concrete, will replace the present inadequate dirt road.

Rockville, Ind.—Ewing Chapman, Rockville, Ind., was the successful bidder, at par, for an \$1,800 issue of Jackson township, Parke county, bonds.

Great Falls, Mont.—The public improvement committee recommended that a concrete walk and curb be constructed on First Ave. north in order to complete boulevard district No. 327.

Ashtabula, O.—The state highway advisory board at Columbus decided that the state will make up the \$70,000 representing the increased cost over the original estimate for building the Ashtabula-Conneaut road. The highway department instructed the county commissioners to advertise the work, and the new bids will be received either at a special meeting Aug. 16 or Aug. 30. Highway Commissioner Cowan. County Engr. Case.

Gold Beach, Ore.—At the county commissioners' meeting no bids were presented for the construction of the road at Brookings and the clerk was ordered to readvertise for bids to be presented at the September term of court.

Harrisburg, July 31.—Sums totaling \$15,831.84 will be paid to eligible second-class townships of Lycoming county, as their share of the 1911 cash road tax bonus. State Highway Commissioner J. Denny O'Neil is now certifying for payment the amounts due those townships which have complied with the law's requirements. This road bonus money will be at the disposal of the township supervisors for the improvement of the more than thirteen hundred miles of township highways in Lycoming county: Anthony (Linden), Armstrong (DuBois-town), Bastress (DuBois-town), Brady (Montgomery, R. D.), Brown (Cedar Run), Cascade (Kellyburg), Clinton (Montgomery), Cummings (Waterville), Eldred (Warrensburg), Fairfield (Montoursville, No. 1), Franklin (Lairdsburg), Hepburn (Hepburnville, No. 1) Jackson (Liberty, R. D.), Jordan (Unityville), Lewis (Trout Run), Limestone (Colloms-ville), Loyalsock (Williamsport, No. 1), McHenry (Cammal), McIntyre (Ralston), McNett (Leolyn, No. 1), Mifflin (Saladasburg), Mill Creek (Montoursville, No. 1), Moreland (Opp), Muncy (Pennsdale), Muncy Creek (Muncy, No. 1), Nippenose (Jersey Shore), Old Lycoming (Williamsport, No. 2), Penn (Maur Glen), Platt (Larrys Creek), Pine (Lloyd, No. 1), Plunketts Creek (Barbours), Porter (Jersey Shore), Shrewsbury (Tivoli), Susquehanna (Nisbet), Upper Fairfield (Montoursville, No. 2), Washington (Montgomery, R. D.), Watson (Jersey Shore, No. 1), Wolf (Hughesville, No. 2), Woodward (Linden, No. 2), Center county share, \$13,645.25; Benner (Bellefonte, No. 4), Boggs (Milesburg), Burnside (Pine Glen), College (Lemont), Curtin (Howard, R. D.), Gregg (Center Hall, No. 2), Haines (Aaronsburg), Halfmoon (Port Matilda), Harris (Boalsburg), Howard (Howard), Huston (Julian), Liberty (Blanchard), Marion (Nittany), No. 1), Miles (Rebersburg), Patton (Bellefonte), Penn (Millheim), Potter (Center Hall), Rush (Phillipsburg, R. D.), Spring (Bellefonte, No. 2, Box 89), Taylor (Port Matilda, R. D.), Union (Fleming), Walker (Nittany), Worth (Port Matilda).

Fort Worth, Tex.—The city in a short time will make arrangements to pave Vickery blvd., the thoroughfare which leads to Polytechnic, from the International & Great Northern tracks to the city limits, and the county already has agreed to continue the paving from the city limits to Polytechnic and the Masonic home. Curtis Hancock, state highway commissioner, has given assurances that permission will be granted for the use of materials necessary for the construction of the road.

Texarkana, Tex.—City council on the Texas side gave its formal approval of the paving of Pine St. with brick from Broad St. to W. 4th St., and the city agreed to pay its portion of the cost of paving the intersections.

MUNICIPAL AND CORPORATION BONDS PURCHASED

Correspondence invited from officers of Municipalities and from well-established industrial corporations contemplating new financing.

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Davenport, Wash.—The board of commissioners have set Aug. 8 as a date for hearing on the improvement of two of the leading highways in Lincoln county on the petition of improved road No. 1, from Larene, six miles north toward Egypt Co.; estimated cost, about \$40,000. Arguments for improved road No. 2 from Edwall north 12 miles to a connection with Sunset highway at a point two miles west of Reardan; about \$75,000.

BIDS RECEIVED AND CONTRACTS AWARDED.

(*Indicates Contracts Awarded.)

Bangor, Me.—*John Grady & Son, 19 Davis St., at \$650, for about 35 yds. of granolithic sidewalk, resetting curbing. City council. John F. Woodman, mayor, City Hall.

Bangor, Me.—*Murtaugh Hughes, 220 3d St., Bangor, at \$10,000, for state-aid highway. State highway commission. P. J. Derrington, chairman; Paul D. Sargent, chief engineer, Augusta, Me.

Boston, Mass.—*Pignat-Vicenzi Mosaic Co., for artificial stone sidewalks, Hunnewell Ave., from Champney St. to Atkins St., Brighton; Fuller St., from Commonwealth Ave. to Brookline line, Brighton; Back St., south side, near Hereford St., city proper; \$1,589.30. Pub. works department.

Boston, Mass.—*John E. Quinn, 28 Dorr St., for granite block pavement, Congress St., from Atlantic Ave. to Fort Point channel; Dorchester Ave., from Congress St. to Summer St.; \$42,736. Pub. works department.

Berrien Springs, Mich.—*R. J. Slotter, Berrien Springs, for 3,300 sq. yds. of brick paving. City council. Jas. Hampton, engineer, St. Joseph, Mich.

Topinabee, Mich.—*Fred L. Smith, for building township road No. 2, Mullet township. Chas. Kinna, clerk.

Great Falls, Mont.—*Tagenstrom Bros., at \$6,801.61, for paving Second alley north between 15th and 19th Sts., the territory being included in special improvement district No. 343. City Clerk Harrison.

White Plains, N. Y.—*Petro Luciano, 50 Grove St., at \$4,790, for grading, paving, resetting of present curbs and otherwise improving Stewart pl. Dept. of public works. Wm. H. Lyons, comr., 6 Grand St.

White Plains, N. Y.—*Jas. Macero, 24 Madison Ave., at \$3,247, for grading, sidewalks, curb, etc., in various streets. Dept. of public works. Wm. H. Lyons, comr., 6 Grand St.

Avon Lake, O.—*Ohio Engrg. Co., Lorain, O., for macadamizing Jaycox road. Village council. W. R. Jinz, clerk, Stop 37, Lake Shore road.

Columbus, O.—Bids for paving in Warren county were opened, and the William Little Co. were the lowest bidders on the section between the Chautauqua and Franklin, and Heck and Foster, the lowest bidders on the section between Franklin and the Butler county line south of the Franklin cemetery. This will probably be paved with concrete. State highway commission.

Tacoma, Wash.—The county commissioners have decided to construct by day labor the road between Carbonado and Fairfax. The initial work calls for 1½ miles of clearing and grading and may involve a total of six miles. No bids were received upon a recent call.

SEWERAGE.

Garner, Ia.—Engineer J. G. Thorne, 317 Howes block, Clinton, plans for sanitary sewers and sewerage disposal plant to be revised and bids taken at later date. Bids were to have been opened Aug. 8.

Lake Linden, Mich.—Probably during the summer city will lay 1,000 ft. sewer.

St. Cloud, Minn.—R. E. Borrowman, city engineer, preparing plans for sewer addition to Pan Motor Co., cost \$250,000. Permit will be asked of the government for construction. A. W. Buckman, city clerk.

Omaha, Neb.—Sewer projects were approved as follows: Extension of Minne Lusa sewer system from St. Mary's Ave. to Florence line, \$95,000; Fontenelle system, bounded by Sprague St., Maple St., 40th St. and 47th St., \$30,000; N. Omaha system, at bottom of Sherman Ave., \$30,000; extension of Mud Creek sewer from Frederick St. to Lane cut-off, \$55,000; system covering 36th St., 42d St., I St. and L St., \$20,000; construction 31st and Farnam Sts. to 36th St. and Leavenworth St., \$35,000.

Pawtucket, R. I.—Common council referred to the committee on sewers petition for sewer in Freeman St. from Central Ave. to Cottage St. Mayor Easterbrooks.

Pawtucket, R. I.—Common council passed the following joint resolutions appropriating \$6,800 for laying and maintaining storm water sewer and drain in Durnell lane from Rhode Island avenue easterly to the works of the United States Finishing Co. and thence southerly and easterly through land of the United States Finishing Co. to trench on said land; authorizing the mayor to enter into agreement between the Providence and Worcester Railroad Co., Boston and Providence Railroad Corporation and the New York, New Haven and Hartford Railroad Co. and the city of Pawtucket in relation to sewer right of way across land of said railroads. The agreement is for the purpose of completing the sewer system in the Fairlawn section of Pawtucket, where work has been going on for the past few months.

BIDS RECEIVED AND CONTRACTS AWARDED.

(*Indicates Contracts Awarded.)

Bridgeport, Conn.—*Eastern Engrg. & Constr. Co., Derby, Conn., at \$300,000 for sewerage treatment plant and pumping station. Paving & Sewer Com., Jas. A. McElroy, Engr., City Hall.

Hutchinson, Kan.—*J. H. Shears & Son for sanitary sewers. Board of comrs., Ed. Metz, City Clk.

Boston, Mass.—*Timothy Coughlin for sewerage works, Dorchester Ave., from Savin Hill Ave. to Rawson St.; \$2,997. Pub. Wks. Dept.

Boston, Mass.—Cefalo for sewerage works, Saratoga St., southerly side, between Trumbull St. and point 220 ft. easterly, East Boston; \$4,999.75. Pub. Wks. Dept.

Rochester, N. Y.—*John Petrossi Co., Livingston bldg., at \$1,253.50 for installing sewer in Centennial St. Board of Constr. & Supply, Hiram I. Davis, Sec.

Naumee, O.—*Gessner Co., 616 Nicholas bldg., Toledo, for sewerage Covant and John Sts. Village council, Geo. Champe, Engr., 606 Nasby bldg., Toledo, O.

Sacramento, Cal.—Bids opened July 8, 1918, for constructing a state highway in Alameda County, Division IV, Route 5, Section C. Materials furnished by the state are as follows: Reinforcing steel, corrugated metal pipe, Portland cement, sand and coarse aggregate. \$50,512.50.

						P. H. Hoare, Hayward			
Items—		Quantities		Engineer's estimate		Bid Amount			
Excavation, without classification.....		18,000 cu. yds.		\$0.75	\$13,500.00	\$1.00	\$18,000.00		
12-in. corrugated metal pipe.....		128 lin. ft.		.60	76.80	.50	64.00		
18-in. corrugated metal pipe.....		174 lin. ft.		.75	130.50	1.00	174.00		
24-in. corrugated metal pipe.....		32 lin. ft.		1.00	32.00	1.00	32.00		
Portland cement concrete, Class "A" (culv. and mons.).....		220 cu. yds.		12.50	2,750.00	12.50	2,750.00		
Portland cement concrete, Class "A" (pavement).....		11,100 cu. yds.		5.00	55,500.00	7.00	77,700.00		
Guard rail.....		4,900 lin. ft.		.40	1,960.00	.50	2,450.00		
Monuments (hauling and setting).....		110 each		1.00	110.00	1.00	110.00		
Total						\$101,280.00			
		Blanchard-Brown Co., San Francisco		O. G. Ritchie, San Francisco		Bates & Borland, Oakland		Rogers Bros. Co., Los Angeles	
Items—		Bid Amount		Bid Amount		Bid Amount		Bid Amount	
Excavation, without classification...		\$1.50	\$27,000.00	\$1.00	\$18,000.00	\$1.05	\$18,900.00	\$0.90	\$16,200.00
12-in. corrugated metal pipe.....		2.00	256.00	1.00	128.00	1.00	128.00	1.00	128.00
18-in. corrugated metal pipe.....		2.00	348.00	1.00	174.00	1.00	174.00	1.25	217.50
24-in. corrugated metal pipe.....		2.00	64.00	2.00	64.00	1.00	32.00	1.50	48.00
Portland cement concrete, Class "A" (culv. and mons.).....		18.00	3,960.00	14.50	3,190.00	20.00	4,400.00	18.00	3,960.00
Portland cement concrete, Class "A" (pavement)		7.00	77,700.00	5.50	61,050.00	6.50	72,150.00	5.70	63,270.00
Guard rail .....		.60	2,940.00	.45	2,205.00	.50	2,450.00	.80	3,920.00
Monuments (hauling and setting)....		2.00	220.00	1.50	165.00	1.00	110.00	3.00	330.00
Totals			\$112,488.00		\$84,976.00		\$98,344.00		\$88,073.50
Net total						\$74,059.30			
Contingencies, 15%						11,108.90			
Total						\$85,168.20			

Sacramento, Cal.—Bids opened July 8, 1918, for constructing a state highway in Monterey County, Division V, Route 2, Section I. Materials furnished by the state are as follows: Reinforcing steel, corrugated metal pipe, Portland cement, sand and coarse aggregate. \$62,301.33.

Items—	Quantities	Engineer's estimate		Geo. R. Daley, San Diego		J. L. Conner, Los Angeles		Geo. S. Benson & Sons, Los Angeles	
		Bid	Amount	Bid	Amount	Bid	Amount	Bid	Amount
Excavation, without classification....	51,300 cu. yds.	\$0.65	\$33,345.00	\$0.68	\$34,884.00	\$0.90	\$46,170.00	\$0.95	\$48,735.00
12-in. corrugated metal pipe.....	1,588 lin. ft.	.60	952.80	.90	1,429.20	.75	1,191.00	1.00	1,588.00
18-in. corrugated metal pipe.....	258 lin. ft.	.75	193.50	1.00	258.00	.90	232.20	1.10	283.80
24-in. corrugated metal pipe.....	192 lin. ft.	.95	182.40	1.25	240.00	1.00	192.00	1.25	240.00
30-in. corrugated metal pipe.....	31 lin. ft.	1.10	34.10	1.50	46.50	1.50	46.50	1.50	46.50
36-in. corrugated metal pipe.....	92 lin. ft.	1.30	119.60	2.00	184.00	2.00	184.00	2.00	184.00
Portland cement concrete, Class "A" (culv. and mons.).....	554 cu. yds.	11.50	6,371.00	12.00	6,648.00	15.00	8,310.00	17.50	9,695.00
Portland cement concrete, Class "A" (pavement).....	9,920 cu. yds.	4.70	46,624.00	6.20	61,504.00	5.25	52,080.00	6.05	60,016.00
Guard rail.....	8,850 lin. ft.	.40	3,540.00	.80	7,080.00	.70	6,195.00	1.00	8,850.00
Monuments (hauling and setting)....	151 each	1.00	151.00	1.50	226.50	1.00	151.00	2.00	302.00
Net total.....			\$91,513.40						
Contingencies, 15%.....			13,727.01						
Totals			\$105,240.41		\$112,500.20		\$114,751.70		\$129,940.30

Chicago, Ill.—The Sanitary District of Chicago. Tabulation of bids for the construction of Morton Grove sprinkling filter plant received July 11, 1918.

Item	Description of Item	Estimated quantities	Knowles & Fehr, Chicago		Illinois Improvement & Ballast Company, Chicago		*The Schillinger Construction Co., Chicago	
			Bid	Amount	Bid	Amount	Bid	Amount
1.	Earth excavation.....	2,500 cu. yds.	\$3.00	\$7,500.00	\$2.40	\$6,000.00	\$1.00	\$2,500.00
2.	Rock excavation.....	5 cu. yds.	3.00	15.00	3.00	15.00	3.00	15.00
3.	Rolled embankment.....	50 cu. yds.	3.15	157.50	3.00	150.00	1.50	75.00
4.	Loam.....	750 cu. yds.	2.10	1,575.00	4.00	3,000.00	2.00	1,500.00
5.	Sand fill.....	125 cu. yds.	2.60	325.00	4.50	562.50	3.00	375.00
6.	Roadways and walks.....	50 cu. yds.	6.90	345.00	400.00	20,000.00	5.00	250.00
7.	Seeding and planting.....	Lump sum	....	262.50	....	2,000.00	....	....
8.	Sprinkling filter and pump well.....	Lump sum	....	18,900.00	....	13,000.00	....	16,330.00
9.	Secondary settling tanks.....	Lump sum	....	3,386.25	....	2,500.00	....	4,077.00
10.	Sludge bed and sludge piping.....	Lump sum	....	1,879.50	....	2,800.00	....	1,446.00
11.	Filter and pump well house.....	Lump sum	....	7,381.50	....	16,000.00	....	4,916.00
12.	Pumping machinery.....	Lump sum	....	2,835.00	....	6,000.00	....	3,294.00
13.	Building and remodeling miscellaneous manholes.....	Lump sum	....	1,758.75	....	3,000.00	....	2,662.00
14.	Wire fencing.....	100 lin. ft.	78.75	7,875.00	2.50	250.00	....	....
15.	Replacing wire fencing.....	100 lin. ft.	26.25	2,625.00	1.00	100.00	....	....
16.	Removal of bridge.....	Lump sum	....	52.50	....	1,000.00	....	400.00
17.	Slope paving.....	200 sq. ft.	.15	30.00	2.00	400.00	.10	20.00
18.	Cover for Imhoff tanks.....	Lump sum	....	367.50	....	1,000.00	....	320.00
19.	Ten-inch tile pipe.....	175 lin. ft.	2.10	367.50	18.00	3,150.00	.80	140.00
20.	Reinforcing steel.....	41,000 pounds	10 1/2	4,305.00	.12	4,920.00	.0595	2,439.50
21.	Additional concrete, Class "A".....	5 cu. yds.	10.00	50.00	10.00	50.00	10.00	50.00
22.	Additional concrete, Class "B".....	5 cu. yds.	9.00	45.00	9.00	45.00	9.00	45.00
23.	Timbering left in place.....	5 M. ft. B.M.	30.00	150.00	30.00	150.00	30.00	150.00
24.	Labor for adjusting sewage distribution system....	100 man-hours	1.05	105.00	1.20	120.00	2.00	200.00
Totals				\$62,293.50		\$86,212.50		*\$41,204.50

*This bid does not include Items 7, 14, and 15.

Great Barrington, Mass.—Proposals for building a section of state highway in the town of Great Barrington opened July 23, 1918. State Highway Commission.

Items	Quantities	Davis & Brock Brookline		Laria Const. Co. Meriden, Conn.		M. L. Camarero Lee		Cordner & Montague Springfield		Burns & Petille	
		Bids	Totals	Bids	Totals	Bids	Totals	Bids	Totals	Bids	Totals
Excavation.....	400 cu. yds.	\$1.50	\$600.00	\$1.75	\$700.00	\$1.65	\$660.00	\$2.00	\$800.00	\$3.00	\$1,200.00
Borrow.....	1,100 cu. yds.	2.00	2,200.00	2.00	2,200.00	2.40	2,640.00	2.00	2,200.00	3.00	3,300.00
Guard rail.....	900 lin. ft.	.50	450.00	.60	540.00	.90	810.00	.60	540.00	1.00	900.00
Bounds.....	14 each	5.00	70.00	4.50	63.00	8.00	112.00	4.00	56.00	3.00	42.00
Portland cement.....	1,730 cu. yds.	9.50	16,435.00	8.50	14,705.00	18.50	32,005.00	10.50	18,165.00	11.00	19,030.00
Totals			\$19,755.00		\$18,208.00		\$36,227.00		\$21,761.00		\$24,472.00

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Bids received until August 8, 1918.

Highway Work HARRISBURG, PA.

Pennsylvania State Highway Department, Harrisburg, Pa.—Sealed proposals will be received at said office until 10:00 A. M., August 8, 1918, when bids will be publicly opened and scheduled and contracts awarded as soon thereafter as possible for the reconstruction of the following pavements: 5,700 feet of Waterbound Macadam on a Telford Foundation in Lebanon County; 4,900 feet of One Course Plain Cement Concrete in

Lawrence County; 676 feet of Vitriified Block in Centre County, and 2,932 feet of One Course Plain Cement Concrete and 2,334 feet of either One Course Plain Cement Concrete or Bituminous Concrete and Vitriified Block on a Concrete Foundation in Chester County. Bidding blanks and specifications may be obtained free and plans upon payment of \$2.50 per set upon application to State Highway Department, Harrisburg. No refund for plans returned. They can also be seen at office of State Highway Department, Harrisburg; 1001 Chestnut Street, Philadelphia, and 904 Hartje Building, Pittsburgh. J. D. O'NEIL, State Highway Commissioner.

Bids received until August 12, 1918.

Highway Work

ALBANY, N. Y.

OFFICE OF THE STATE COMMISSION OF HIGHWAYS, ALBANY, N. Y.—Sealed proposals will be received by the undersigned at their office, No. 55 Lancaster Street, Albany, N. Y., at one o'clock P. M. on Monday, the 12th day of August, 1918, for the completion of the following highways:

CATTARAUGUS—Two highways, 6.88 and 4.73 miles.

DUTCHESS—One highway, 6.81 miles.

ERIE—Three highways, 6.03, 9.14 and 5.19 miles.

GREENE—One highway, 3.98 miles.
MONROE—One highway, 2.92 miles.
MONTGOMERY—One highway, timber crib.
NASSAU—Three highways, 5.24, 3.09 and 3.38 miles.

ONTARIO—One highway, 8.63 miles.

ORANGE—One highway, 9.18 miles.

SCHENECTADY—One highway, 6.33 miles.

WESTCHESTER—One highway, 4.29 miles.

and also for the completion of the following repair contracts:

DELAWARE—One contract, resurfacing.

ONONDAGA—One contract, resurfacing.

and also for the repair of the following highways:

CATTARAUGUS—One contract, resurfacing.

Maps, plans, specifications and estimates may be seen and proposal forms obtained at the office of the Commission in Albany, N. Y., and also at the office of the division engineers in whose divisions the roads to be completed are located. The addresses of the division engineers and the counties of which they are in charge will be furnished upon request.

The especial attention of bidders is called to "General Information for Bidders" on the itemized proposal, specifications and contract agreement.

EDWIN DUFFEY, Commissioner.

I. J. MORRIS, Secretary.

Woodstock, Ont.—*Wm. Struthers, the general contract for tile sewers \$92,700. City Council.

WATER SUPPLY.

Washington, D. C. (Bureau of Foreign and Domestic Commerce, Department of Commerce).—The sanitary department of a city in Argentina is desirous of receiving bids for the construction of sulphuric acid plant for supplying chemical for the water-treating plants of the nation. Bids will be received until November 8, 1918, at 3 o'clock p. m. Further information in regard to the local conditions, cost of labor, material, etc., may be had on application to the bureau or its district offices. The form of contract will be based on the specifications, which may be examined at the above-mentioned offices. (Refer to file No. 40057.)

Rochester, Minn.—Town plans to install 50 service connections and 50 new service meters during this year. M. G. Holmes, Superintendent.

Lima, O.—City auditor David L. Rupert receiving bids Aug. 26 for the purchase \$150,000 bonds for the purpose of increasing the size of the waterworks system by providing a new storage reservoir at what is known as the Lost Creek site, new pumps, necessary conduit lines, new boilers, a filtration plant and the repair of Lima Lake.

Providence, R. I.—Construction of a dam across the Moswanisut river in the Scituate district to provide the city with a temporary 30,000,000-gallon water reserve pending the completion of the main reservoir project there, was authorized by the city council. Expenditures will be limited to \$40,000. Plans for the building of the dam drawn by the engineering staff of the Water Supply Board were approved. Bids will be asked soon. This reserve, together with that to be obtained through the construction of the new dam at Pettaconset, is expected to protect the city against any shortage that might otherwise occur before the new Scituate project, now held up by the war is completed.

Tacoma, Wash.—City council has authorized the commissioner of light and water to call for bids and let contracts for such equipment and materials as he shall find necessary.

BIDS RECEIVED AND CONTRACTS AWARDED.

(*Indicates Contracts Awarded.)

Argos, Ind.—*The Natl. Co., M. S. bldg., South Bend, Ind., pumping station water works, \$17,000. Otto L. Grossman, Lloyd W. Slayter and Jacob Mustin, board of directors.

Boston, Mass.—*L. Martiniello for laying water pipes in Grove St., between Washington and Centre Sts., West Roxbury. Bids opened, \$5,085.80.

Boston, Mass.—*John T. Shea, Jr., for installing street watering hydrants in South Boston and Dorchester; \$3,219.

LIGHTING AND POWER

Tipton, Ind.—A \$22,000 issue of Tipton, Ind., electric light bonds was sold to the Harris Trust & Savings Bank, Chicago, Ill., for par, \$251 premium and accrued interest.

Tacoma, Wash.—See "Water Supply."

Woodstock, Ont.—County council receiving bids soon for central steam heating system for registry office, jail and court house.

Meota, Sask.—Council is considering the erection of a power plant.

FIRE EQUIPMENT

Freeport, L. I.—A movement is being started to purchase a pulmotor. The matter will in all probability be brought up at the next session of the village board and the fire council also. And the attention of the board of health will be called to the necessity of having a pulmotor in the police headquarters.

Fredonia, N. Y.—For the purchase of fire equipment an election may be called.

BRIDGES.

San Jose, Cal.—Plans and specifications adopted for the construction of a reinforced concrete bridge on Roberts road over the Los Gatos creek to be built by Santa Clara county and the town of Los Gatos jointly. Bids received soon for construction.

Lima, O.—Ordinance approved declaring it necessary to construct bridges over the Ottawa river within the city, at its intersection with Collet St., West St., Pierce St., Main St., Jackson St. and North St., together with approaches and abutments and retaining walls and providing for the issuance of bonds in the sum of \$50,000 to secure funds therefor. B. H. Simpson, Mayor.

BIDS RECEIVED AND CONTRACTS AWARDED.

(*Indicates Contracts Awarded.)

Eaton Rapids, Mich.—*Ben Hicks of this city for building two bridges across Grand river, between Van Horn's station and Jackson.

MISCELLANEOUS.

Washington, D. C. (Bureau of Foreign and Domestic Commerce, Department of Commerce).—The representative of the public works department of a foreign country desires to purchase for the Government 12 buckets for a bucket dredger, as shown in drawings and specifications which may be examined at the Bureau or its district offices. (Refer to file No. 103321). Correspondence should be in French.

Attleboro, Mass.—Salomon Bros. & Hutzler, Attleboro, Mass., the successful bidders for the 6-months temporary loan to the amount \$50,000, were Salomon Bros. & Hutzler of New York.

Hastings, N. Y.—Cantonment Div., War Dept., shortly let contract building chemical plant for Ordnance Dept. First unit to cost \$500,000, additional units cost plus.



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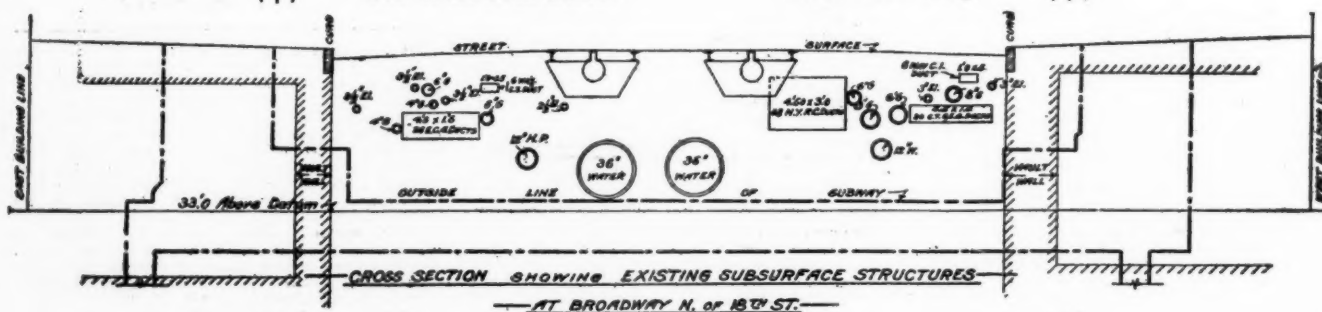
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2-14x12 Bury Duplex, belt driven, capacity about 550' at 60 to 80 lbs., each.....	1,000
1-14x16x10x16 Sullivan, 2 stage air, simple steam, capacity 600' at 80 to 100 lbs.	1,500
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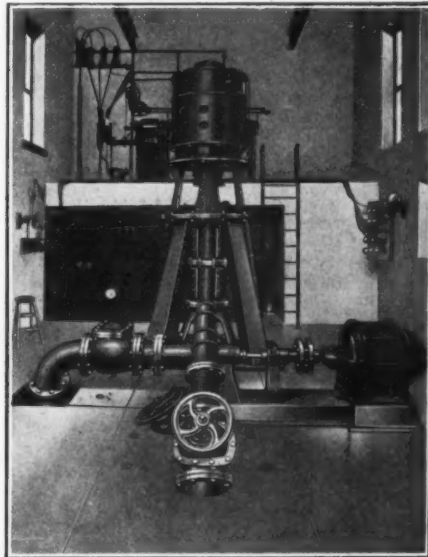
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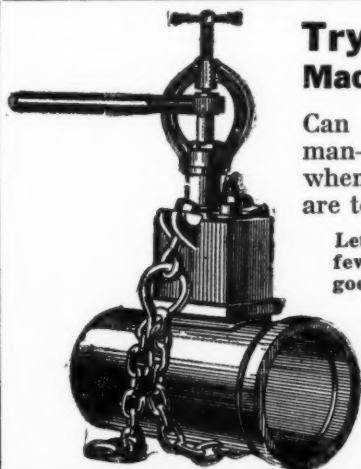
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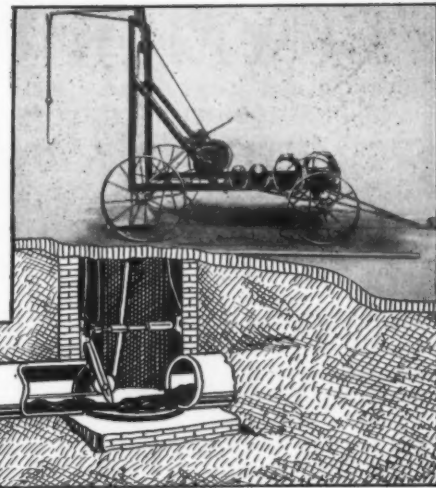
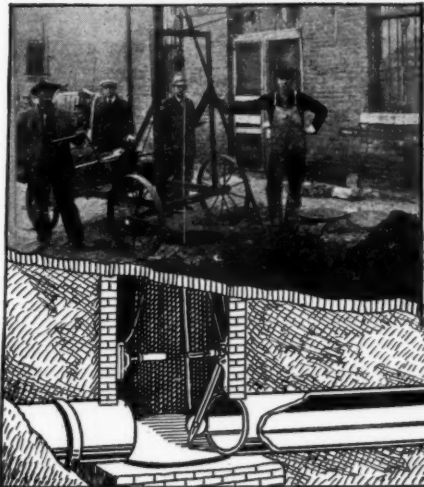
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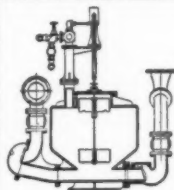
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